

It's Important to Know In Time'

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The Newspaper of the Industry

Formula Given To Set Prices On Used Boxes

Regulation To Cover Models Not on OPA Listing

WASHINGTON, D. C.—While the official order regulating prices of used and reconditioned electric refrigerators contains a list of resale prices for most models, a formula for determining this price for models not listed has been developed by the Office of Price Administration.

In these cases, the seller is instructed to find the base price in either the 1942 edition of the Blue Book of the National Refrigerator Market Report or the 1942 edition of the Green Book of the Standard Refrigerator Trade-In Manual and Dealers Guide.

To this base price may be added a maximum handling or transportation

110 & 139 Are the Law

WASHINGTON, D. C.—Maximum Price Regulation No. 110, which was issued some weeks ago and established ceilings for 1942 model household electric refrigerator prices, is not superseded by the General Maximum Price Regulation which went into effect May 18, it was stated last week by the Division of Information, Office of Price Administration.

"Prices established by Maximum Price Regulation No. 110 will continue to be the maximum prices for the resale of household refrigerators on and after May 18," the statement declared.

Schedule of prices for used household refrigerators as issued by the OPA are published as a special section of this issue of AIR CONDITIONING & REFRIGERATION NEWS.

charge of \$5. The result may then be marked up by 50%, giving the maximum "as is" price.

The "unreconditioned" price, according to the OPA, is the price of a new refrigerator of the same type and capacity as the one being sold.

Machinery Price Law Delayed; May Cover Refrigeration Units

WASHINGTON, D. C.—The Office of Price Administration on May 15 announced that it has postponed for two weeks the effective date of Maximum Price Regulation No. 136 on machines and parts.

The regulation is to become effective June 1 instead of May 18. It establishes Oct. 1, 1941, prices as maximum prices for all machines and parts not covered by other price schedules for all levels of distribution except retail. It establishes Oct. 1 rentals as maximum rentals for the machines and parts it covers.

No official interpretation has been issued to the effect that this price order will cover commercial refrigeration machines and parts, but well-informed members of the industry in Washington believe that it will be interpreted to cover such equipment.

At the same time, it was announced that an amendment to the regulation affecting coverage of parts and subassemblies important in the war production program will be issued shortly.

Inquiries addressed to OPA regarding coverage of the regulation should be delayed pending issuance of the amendment.

Air Conditioning & Refrigeration

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This Is the 'Report' Issue on All-Industry Meeting

THIS is the "report issue" on the All-Industry Meeting and Conference Clinic of the Air Conditioning and Refrigeration Industry, held May 10 to 13 at the Stevens hotel in Chicago.

The NEWS had promised previously that it would publish all of the information given out at the All-Industry Meeting for the benefit of those who could not attend.

We hold to that promise in this issue with the publication of all of the talks, and a presentation

of some of the principal questions asked with their answers. Space limitations force us to postpone publication of all of the discussions and some of the fine talks and "questions and answer" periods of the Refrigeration Service Engineers Society meeting.

By providing readers with a report of the All-Industry Meeting the NEWS has been forced to condense other news items and to cut out some of its feature material—such as the series on "Motor Servicing"—for this issue only.

Branch Officials To Send PD-399 Only To 'Lists'

Stick To Original Plan On Application Form For Service Agencies

WASHINGTON, D. C.—Latest official word from the Air Conditioning and Commercial Refrigeration Branch of the WPB indicates that officials of the Branch are sticking closely to the "letter-of-the-law" of the order and the original announcement they made as concerns the service companies that will be sent Form PD-399 on which application is made to operate under Repair Order P-126.

The original announcement made when the order was issued said,

"The ratings may be applied only by designated Emergency Service Agencies and their suppliers. In order to obtain designation, an agency must be regularly authorized to represent a manufacturer, owner, or lessee of air conditioning or refrigerating equipment, and must obtain a serial number from WPB after first making application on Form PD-399. J. M. Fernald, chief of the Branch, said that manufacturers already have submitted the names of several thousand authorized service agencies throughout the country, and that the task of issuing serial numbers would be expedited."

Just how an active refrigeration service company not on any "list" would get a PD-399 form is not clear, and this was one of the questions widely debated at the All-Industry Conference in Chicago (see story).

Announcement has been made by the Branch of the appointment of Sterling Smith, who has been active in the Branch for sometime, as administrator for Order P-126. In an answer to a question put by AIR CONDITIONING & REFRIGERATION NEWS on the procurability of the PD-399 form, Mr. Smith stated:

"The procedure being followed in the administering of this Order (P-126) is as follows:

"Manufacturers of air conditioning and commercial refrigeration equipment have submitted to us lists of their authorized service agencies. To these lists is going Form PD-399, application for a serial number and for authorization to operate as an Emergency Service Agency under Order P-126.

"Names of service agencies may also, under the provisions of the Order, be submitted by owners or lessees of air conditioning and commercial refrigeration equipment. In this instance, the serial number issued to the agency could cover only that owner's or lessee's equipment.

"The Form PD-399 is being mailed in triplicate to authorized agencies. Two copies are to be returned to us and one retained in the agency's file."

Pendergast, Cadwell Get New Jobs

MARION, Ohio—T. S. Pendergast, for the last 11 years sales manager in charge of commercial sales, has been appointed vice president and plant manager with full jurisdiction over purchasing and material control of the Universal Cooler Corp. here reports F. S. McNeal, president.

Succeeding Mr. Pendergast as sales manager is A. E. Cadwell, who has been a member of Universal's commercial sales department for six years. Both appointments are now in effect.

(Concluded on Page 13, Column 3)

3 Associations Meet - - Report Year's Activity

R.S.E.S.

CHICAGO—Plans to tackle the new set of problems facing both the individual serviceman and the national society were discussed at the annual convention of the Refrigeration Service Engineers Society May 10-12 at the Stevens hotel. The R.S.E.S. members also participated in the All-Industry Conference.

At the opening session, President E. A. Plesskott called upon his experiences and observations during the year to make certain recommendations to the Society as a whole. He pointed out that the unprecedented times we are now passing through have imposed a great deal of work on the officers of the Society, particularly the office of the National Secretary.

Because of the loss of some members to the armed forces and others to the war industries, Mr. Plesskott expressed the opinion that the Society may face a sharp decline in membership and income during the next few years, and it is necessary at this time to examine ways and means of overcoming these losses.

"In this connection," he said, "it might be well to repeat a recommendation made over a year ago, that wherever possible, the chapter pay the dues for their enlisted members in order to keep them in good standing."

(Concluded on Page 13, Column 2)

N.R.S.J.A.

CHICAGO—Members of the National Refrigeration Supply Jobbers Association at their annual convention May 13 heard of a jump in membership in the organization during the past year, and applauded the work of President C. E. Borden of A. E. Borden Co., Boston, and other officers, in their efforts to give Washington officials a clear picture of the functions of the refrigeration supply jobber.

New officers elected to serve in the coming year are: president, Alex Holcombe, Jr., Victor Sales & Supply Co., Philadelphia; vice president, C. W. Dennis, Dennis Refrigeration Supply, Sioux City, Iowa; secretary-treasurer, H. W. Blythe, the H. W. Blythe Co., Chicago. New directors

(Concluded on Page 13, Column 4)

R.E.M.A.

CHICAGO — The Refrigeration Equipment Manufacturers Association (Rema) met May 10 before the start of the All-Industry Conference for its annual business meeting, electing officers and hearing a message on the industry's wartime problems and responsibilities from President Earl A. Vallee, who then retired from that office after serving two terms.

New officers for the year are:

President, John Wyllie, Jr., vice president, Temprite Products Co.; vice president, R. H. Luscombe, sales manager, Penn Electric Switch Co.; treasurer, E. J. Tweed, president, Dole Refrigerating Co.; secretary, A. B. Schellenberg, president, Alco Valve Co. These men, with E. A. Vallee, and the following five directors, constitute the board of directors:

Frank K. Smith, Tecumseh Products Co.; F. J. Hood, Ansul Chemical Co.; J. A. Strachan, Kerotest Mfg. Co.; Ivan Corcoran, Square D Co.; George Allen, Mueller Brass Co.

In his message, Retiring President Vallee declared:

"I know it's customary for retiring officials in an organization to stand up before the membership at the end of the year—and give a kind of 'hind-sight' summary of the progress, success, and growth of that organization."

(Concluded on Page 16, Column 1)

Maximum Prices of Used Refrigerators

Published as Part 2 of this issue of the NEWS are the maximum prices for used household refrigerators as established by the Office of Price Administration.

Reprints of these along with other available price information are available at 25 cents each.

They Told the Story of Where This Industry Stands



The camera of Irving Alter, Chicago refrigeration jobber, caught some top shots of speakers at the All-Industry Meeting. (Top left) George Meek of the Air Conditioning and Commercial Refrigeration Branch of WPB takes his turn at answering some questions, while Harry C. Williams, assistant chief of the branch, knits his brow

over one of the puzzlers submitted. (Top right) Alex Holcombe, incoming N.R.S.J.A. president, drives home the fact that the parts wholesaler can and is serving. Introducer W. C. Allen is at his left.

(Lower left) Henry Dinegar, chief, Consumers Durable Goods Section of

the Division of Civilian Supply, takes a peek at the portside section of his audience. (Center) Mr. Williams "hists up" his pants as he tackles the subject of what his branch must and is doing. (Right) Crystal-ball gazer A. B. Schellenberg rhapsodizes over refrigeration's opportunity to make universal peace a postwar certainty.

Functions of the Air Conditioning and Commercial Refrigeration Branch of WPB

An Outline of How the Branch and Some of Its Sections Will Operate In Relation To the Industry

By Harry C. Williams, Assistant Chief, Air Conditioning and Commercial Refrigeration Branch, War Production Board

First, Mr. Fernald has asked me to express his deep regrets for not being able to attend and address this meeting. He is completely swamped with the details of organization and the final draft of the Limitation Order L-38.

As you all know, our Branch is newly formed and is still greatly understaffed. Mr. Fernald, Rod Tait, and Sterling Smith carried the load since the organization of the Branch in the Industry Operation Division. The result has been that the Branch has suffered a higher percentage of casualties than Corregidor. Mr. Tait is in the hospital, and Mr. Smith has just been ordered by his doctors to take a two-weeks' rest. Mr. Fernald alone has been forced to carry the burden inside, as well as out.

I doubt if any of you have any idea at all of the task. As for myself, I only joined Mr. Fernald on March 26, and have done my best to relieve him of some of the burden. For that purpose, I am pinch hitting for him here today.

Now one of the things you are probably interested in is what is being done by the Branch, its relation

to the industry as well as the War Production Board, and for that reason I will confine my remarks to the function of the Branch.

Within the War Production Board there is established a Division of Industry Operations under the direction of James S. Knowlson. One of the parts of this Division is the Bureau of Industry Branches directed by Philip D. Reed, and within the Bureau of Industry Branches is represented as a Branch practically every known industry of any consequence.

The Chief of the Air Conditioning and Commercial Refrigeration Branch is Mr. J. M. Fernald. In private industry Mr. Fernald was general manager of one of the industry's leading manufacturers, and is known as an organizer with a nation-wide reputation for getting the job done.

Mr. Fernald has said: "This Branch has a double responsibility. It is, first, the representative of the War Production Board in interpreting the policies and program of the Government to the industry, and it must reverse that po-

sition and become the advocate of the industry in the development of regulations, allocations, etc. An impartial and realistic attitude should permit this to be accomplished satisfactorily.

"We have no favors to give, and no friends to favor. The Branch expects to advocate strongly the needs of the industry for its fair proportion of any materials available for non-military uses.

"It must, as a war production unit, expect all members of the industry to be fair in taking only a fair and proportionate share of the material available, and to share on the same basis any limitation and sacrifice the industry is asked to accept during this emergency.

"The Air Conditioning and Commercial Refrigeration Branch is concerned only with the limitations which may be necessitated by shortages of material and the demand for war production.

"We hope that limitations can be avoided as much as possible, and when necessary, we expect to handle them fairly and impartially.

"We naturally respect and will conform with all regulations and policies which are established by the War Production Board, and by the Division of Industry Operations and by the Bureau of Industry Branches.

"The Branch, with the assistance and advice of industry, will apply

They Seek the Key To 'Priorities'



The "Priorities Clinic" at the All-Industry Conference was a lively affair and you had to be fast on your feet to get in a question. In the background Henry Merkel of Cincinnati, a past president of the N.R.S.J.A., addresses the "board" while Warren Farr (right) of Cleveland gets on his feet to make sure his will be the next question.

the regulations and policies impartially and with the least possible interference with the actual individual operation of each manufacturer."

The task of each Branch Chief will be to bring about the maximum use of the existing industrial capacity within the industry assigned to it for the production of war material, and products for essential civilian use. The Branch will also assist the industry assigned in every phase of its production program, including conservation, financing of expanding facilities, problems of labor supply, and procurement of material and equipment.

The Air Conditioning and Commercial Refrigeration Branch as established, is the focal point for all war production business of the industry. The Branch in its various sections is the official point of contact between the War Production Board and all committees or subcommittees of the industry, and the point of contact with industry for the Division of Civilian Supply in connection with its estimates of minimum civilian requirements and recommendations of programs for the allocation of products among competing civilian demands.

In order to do this, it is necessary with the assistance of representatives of the Statistics Division assigned, to ascertain the military requirements of the Army, the Navy, the United Nations, and the civilian requirements which are to be satisfied through facilities available.

Jobs For the Sections

To date, plans have been formulated to ascertain the existing industrial capacity within the industry which can be made available for war production, and also to ascertain the opportunity for enlarged productive capacity of existing plants for the purpose of utilizing these facilities for industry's purposes and for the purpose of utilizing unused and available facilities for the production of war materials.

When conversion is necessary, our effort will be to bring about such conversion in the shortest possible time. To accomplish this, we are working with the Production Division and with all the branches of the armed forces through the Statistics Department to find out what their requirements are and will be for the balance of the year 1942, and for the year 1943.

We have also set up sections to work with the Production Division and the Purchases Division to insure the prompt placement of war contracts and subcontracts so the maximum utilization of available facilities within the industry can be used.

Another department has been set up to handle priority matters under the direction of a priority specialist, whose task is to guide such priority, allocation, or limitation orders as may be necessary to accomplish the primary purpose of bringing about this maximum war production, and production for the minimum civilian requirements.

This includes applications on PD-1A forms, Production Requirements Plan forms, and Project Rating forms. To assist them in their priority problems, this Section interviews representatives of manufacturers.

It is this Section's further duty to act as liaison between the Branch and the Bureau of Priorities, interpreting to the Branch the policies of the Bureau of Priorities, and carrying to the Bureau of Priorities the

problems of the Branch as affected by the priorities system.

Another and most important section has been set up, known as the Conservation Section, which works very closely with the Bureau of Industrial Conservation for the purpose of conserving critical material by substitution, redesign, and review of specifications.

Conservation activities in general may be summed up under the following four headings: (1) salvage; (2) substitution; (3) simplification; (4) specification.

The activities of the Branch are confined to the last three of the above methods. Salvage activities are left entirely to the Bureau of Industrial Conservation.

More specifically, the activities on this section involve—

1. **Substitution:** As a shortage of certain strategic materials occurs, it becomes necessary for the Industry Branch to determine satisfactory substitutes and to see to it that substitutes are used most effectively by the refrigeration manufacturers. Many of the substitution problems are solved directly by the manufacturers themselves, but certain problems are of such a general scope that it is necessary for the Industry Branch to organize the substitution efforts.

2. **Simplification:** During the last decade the competitive situation resulted in creation of a large number of types and sizes of refrigeration equipment. In many cases, types and sizes were created solely as a means of obtaining a competitive advantage, and while this was entirely within the limits of free enterprise, it is a practice which must be undone in a period of such emergency.

An example of this is given by the water cooler industry. Between 30 and 40 types and sizes of electric water coolers were offered to the public and to the government. Through industry meetings and through meetings with the various governmental procurement agencies, this number has been reduced to a total of eight sizes of units, which can be made with five basic sizes of evaporators. This will result in an appreciable reduction of materials tied up in useless inventories, and will make for much more efficient manufacturing.

3. **Specification:** Inasmuch as the Government is now the chief purchaser of refrigeration and air conditioning equipment and inasmuch as the Government buys almost entirely on specifications, it is obvious that any changes resulting from substitution and simplification must of necessity cause a revision in the specifications. Therefore it is necessary for the Industry Branch to work closely with the various Specifications Departments in order to coordinate the substitution and simplification activities.

It is obvious from the above that from this point forward, the Conservation Section is responsible for the drafting of all limitation orders which will affect the refrigeration and air conditioning industry, other than those which may be aimed at specific conversion problems.

The Planning and Requirements Section

Another section has been set up under the direction of Sterling Smith—to be known as the PLANNING & REQUIREMENTS SECTION. This Section is established to perform the following functions:

1. Compile all data and statistics pertaining to the Air Conditioning (Concluded on Page 3, Column 1)

Be sure they're charged with..

Drying cartridges and dehydrators are as good as their drying agents make them. Select your materials, therefore, to avoid a weak link in your refrigerant conditioning procedure. Choose Alorco Activated* Aluminas, proved to have high drying and purifying efficiency.

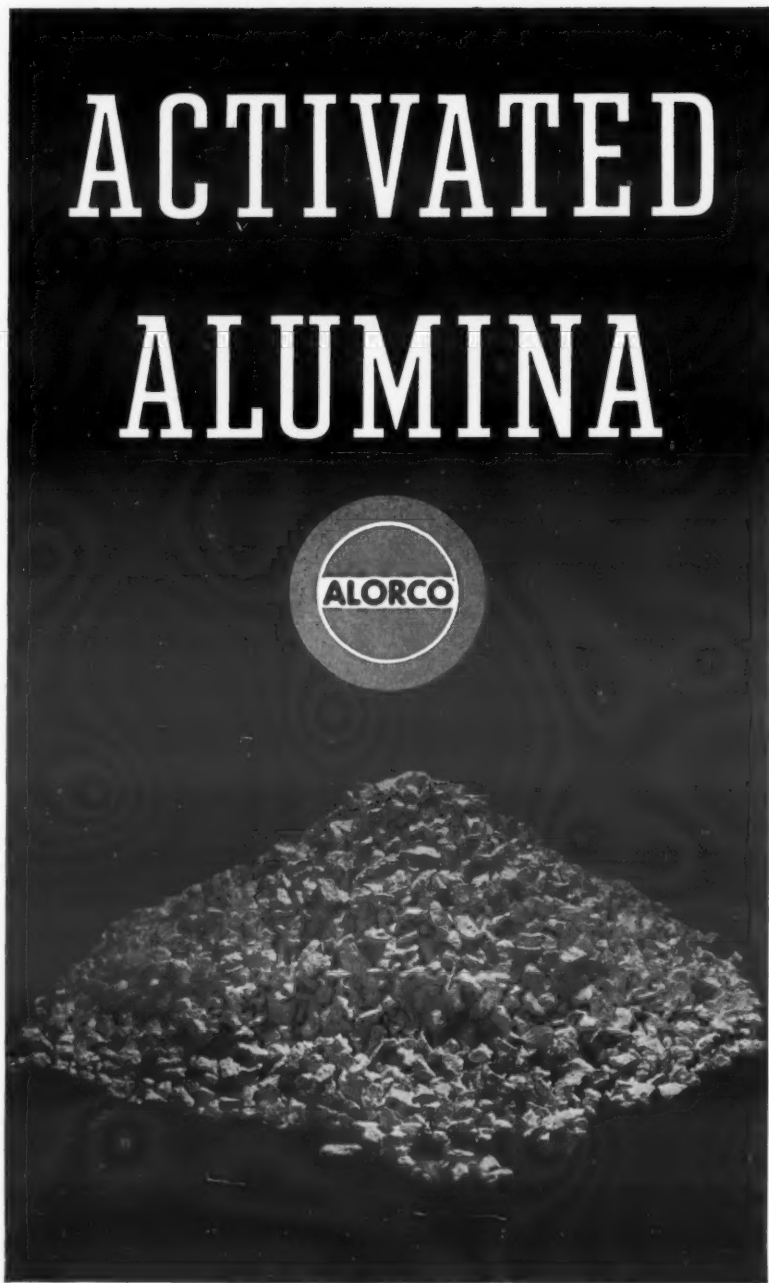
Refrigerants dried with Activated Aluminas remain crystal clear and fluid at -110° F., because all of the water is gone. There's no moisture left to cause trouble. And the acid has been removed, too—sludge taken out of the lubricating oil—reducing wear and preventing corrosion.

Make Activated Aluminas your partner in getting rid of troublesome moisture, acid, and sludge in the refrigerator lines you service. Ask your supply house for cartridges and dehydrators charged with Alorco Activated Aluminas. ALUMINUM COMPANY OF AMERICA (Sales Agent for ALUMINUM ORE COMPANY) 1908 Gulf Building, Pittsburgh, Pennsylvania.

*Registered trade mark

These manufacturers supply cartridges and dehydrators charged with Activated Aluminas:

American Injector Co. . . . Fedders Mfg. Company
Henry Valve Company . . . Imperial Brass Mfg. Co. . . . Kerotest Mfg. Company . . . McIntire Connector Co. . . . Mueller Brass Company . . .
Cyrus Shank Company.



Functions of the Air Conditioning and Commercial Refrigeration Branch of WPB

(Concluded from Page 2, Column 5) and Commercial Refrigeration Machinery and Equipment Industry, and correlate this information in the best form to be useful to all the other sections of the branch.

2. It will keep all records on the industry, such as manufacturing facilities, engineering data, equipment application data, etc.

3. Compile governmental requirements of the industry's products for the six important branches—the Army, Navy, Maritime, Treasury, Procurement, Lend-Lease and all essential civilian supply.

4. Handle all requests of the industry for information.

5. Plan all industry advisory committee and industry segment committee meetings, and keep the records of these meetings and analyze the reports.

6. Clear all publicity for the branch.

7. Cooperate in the administration of all "L" and "M" Orders.

This branch is now being staffed and shortly will be able to efficiently perform all of its required functions. An editorial which appeared in the AIR CONDITIONING & REFRIGERATION NEWS of April 27, spoke of refrigeration as the new machine tool; and emphasized the importance which refrigeration and air conditioning play in the war. I did not realize this until I read this editorial that this industry serves a cross-section of all manufacturers who are now playing a major part in our production program. It is with this knowledge that I speak next of the Emergency Service Order P-126.

Since the branch has been formed considerable work has been done under the direction of Rod Tait to create an Order which would take care of one of the most important needs and so vital to the continued operation of many industrial plants and transportation and storage jobs.

With the recent issuance of the Preference Rating Order P-126 on material for emergency service of refrigeration and air conditioning and machinery equipment, I believe a definite step has been taken which will in a great measure simplify the problems that face the industry.

You are all, no doubt, by now, familiar with the order and the ratings assigned; with the setting up of the authorized service agencies and the procedure to be followed, the problem of keeping present refrigeration and air conditioning facilities in satisfactory operation during this emergency has been met.

Questions pertaining to this order no doubt will be presented at the proper time at a clinic this afternoon, or tonight, at which time answers will be made to the best of our ability, and if not satisfactorily answered, they will be noted and legal interpretations obtained from Washington.

The L-38 Order

Now we come to the limitation order at the present time in preparation—the L-38. You are all familiar with the critical situation which prevails in regard to many materials essential to this industry and for that purpose it has been necessary for this branch to prepare and issue this limitation order.

The original draft of this order was prepared many months ago with the cooperation of the industry's Advisory Committee. If that original order had been passed at that time it would have had to be changed, as since that time the situation has become increasingly difficult.

The new L-38, which I hope will be signed this week, is absolutely necessary as written and is as liberal as possible under existing conditions.

The "essential uses" of commercial and industrial refrigerating and air conditioning equipment which will probably prove of sufficient importance to the war effort to warrant the granting of a preference rating under this order are:

(a) Processing, transportation, storage, preservation and distribution of food and food products only in those expanding defense communities where adequate minimum facilities do not exist in the opinion of the WPB.

(b) Production, processing, transportation, storage preservation, and distribution of milk and dairy products. (This does not include equipment for the manufacture, sale or distribution of ice cream, frozen con-

fections, carbonated or malt beverages.)

(c) Mining, manufacturing processes, communications equipment, and processing methods (including water and liquid cooling) where control of temperature or humidity can be proved necessary to production of the product or products.

(d) Ice manufacture and storage only where in the opinion of the WPB adequate facilities do not now exist.

(e) Miscellaneous applications in connection with testing and research laboratories; defense production drafting rooms which can demonstrate proof of actual need; operating rooms in regularly constituted hospital buildings; preservation of drugs, medicine and serums, mortuaries (body storage); production inspection test rooms; (Nothing herein is to be interpreted to allow installation of new equipment for use

on comfort air conditioning jobs.

Most of you were here yesterday morning when Mr. Straus spoke so there is no reason for me to comment on the shortage of material and the challenge to American industry to use their initiative, ingenuity and pioneering spirit to meet the situation by substitution, conservation and conversion.

It is absolutely industry's responsibility to itself and it's up to each and every manufacturer to administer his own company's affairs, and his own affairs, it is impossible to direct all of these activities from Washington.

The War Production Board has been subjected to some criticism, for delay, red tape and inefficiency. You must, however, realize that in the formation of WPB the opportunity did not present itself to build an organization as is done in private industry.

Difficulties of the Job

In private industry there is knowledge of the job to be done and sufficient time is available to go through the working-in process, during which process the rough spots are worked

off until there is a complete meshing of all working parts, branches and functions.

Within the War Production Board this was not possible as the emergency demanded instant action and it has been necessary to create the best possible organization in the shortest possible time. It is only now that we are getting to the point where we are beginning to mesh, and this is not only true of the WPB but is also true of industry in its production effort.

At a recent staff meeting it was pointed out by the members of the Planning Section under Mr. Nelson that this is industry's opportunity to show what it can do, and, unless there is need for their products in essential requirements and unless they can be converted to war production that industry or that company will have to go—as there will be no materials available for them.

This is everybody's war and not just a war of the armed forces or the WPB. This is a battle of materials and production and one that only industry itself can win. As Mr. Straus pointed out yesterday, this is a war than can be lost, and if

lost, in what condition will each of us find ourselves not only as individuals but as manufacturers, and what will we be called upon to do?

Therefore, in order to win this war it will be necessary for us to do all that and more, too. At this same meeting Mr. Nelson complimented industry, as a whole, on the way it has in a short time swung from a peace-time activity toward an all-out war activity.

Today, we are spending at the rate of 30 billion dollars a year for war materials. By the end of the year we will be spending at the rate of five billion dollars a month, or 60 billion dollars a year. It is, therefore, absolutely necessary for every man, woman and child, every executive and every worker to do just a little more than he is now doing. If this is done the goal set by the President this year will not only be reached but surpassed.

It is not a time to let down but a time to speed up. There are a thousand reasons which you or anyone can advance why things can not be done, and there is only one reason why they can and will be done—WE MUST WIN THE WAR.



Feet...on the ground Head...7 miles high!

HIS FEET ARE on the ground, but to all intents and purposes, this man is 7 miles high in the air. He's a stratosphere test pilot—although he makes his tests on the ground.

He's in a refrigerated chamber, where conditions up to 40,000 ft. altitude are simulated to provide vital information on aircraft performance.

This is only one of the many uses of refrigeration and air conditioning in creating better aircraft and speeding production. Air conditioning is essential—in testing materials and engines—in the manufacture of high precision parts—and for the effective use of great windowless, "blackout" plants.

Under the stress of war conditions, demanding speed and quality, a host of new industrial uses are being found for refrigeration. These new uses will

be applied when peace returns—in bringing us all better standards of living.

But today we have just one aim: To produce "Freon" refrigerants in the quantities needed to help win the war. Kinetic Chemicals, Inc., Tenth & Market Sts., Wilmington, Delaware.

Save vitally needed "Freon-12," repair parts and power—have your refrigerating system inspected regularly by a service man.



FREON

REG. U. S. PAT. OFF.

safe refrigerants

"Freon" is Kinetic's registered trade mark for its fluorine refrigerants.

"FREON" PREVIEWS

← We want you to see this ad first—before it is released in TIME Magazine for June 8.

It's the first of a series of six "Freon" advertisements directed to TIME'S 3,000,000 influential readers.

"Freon" advertising in TIME Magazine is *your* advertising as well as ours. It's major objective is to help *you* by telling the American public of the importance of refrigeration and air conditioning in the war effort today and in the scheme of things for tomorrow.

"Speeding production" is the subject. You can help us make that more than a mere phrase by impressing on every user of refrigerants the need for proper equipment maintenance—to save power, repair parts, and "Freon" refrigerants. Do this and you will have made an important contribution to the war effort. Kinetic Chemicals, Inc., makers of "Freon" safe refrigerants.

Cooperative Industry Program for Victory Is 'Save—Simplify—Substitute'

Dr. Hainsworth Explains Purposes

By Dr. William R. Hainsworth, Vice President, Servel, Inc., and President, American Society of Refrigerating Engineers.

It's our war. It's total war. We have read and heard these words many times but their true meaning has been slow to sink in. Many of us have not taken the war seriously. Psychologically, as well as materially, we have not been prepared.

All this is rapidly changing. In the past month or so, we have come to a clearer realization of the enormous advantage to our enemies of the years of preparation and the total war viewpoint. There is no way to match and overcome this advantage except more of the same. This must be done to save our way of living.

How can it be done? Every individual must play a part to the best of his ability. He must play this part in accordance with a plan. He must be part of an organization with the total war objective. He must contribute to industry effort. He must be a constructive part of the United States.

Broadly speaking, there are two methods of procedure. We can work toward our objectives by subscribing to and abiding by governmental rules and regulations which, in the last analysis, have our interests and welfare at heart. In this classifica-

tion we have priorities, limitation and freeze orders, price control and rationing.

However defective they may have been in the initial stages, they are absolutely necessary to insure the material, manpower and equipment required to win this war. It is a part of our democratic system that we support this effort, not only because it is the law, but because we recognize that such laws are designed for our own good and to protect our future.

The second plan of procedure is voluntary action. Governmental rules and regulations cannot and should not cover everything that needs to be done to win this war. An almost infinite number of details can be made to contribute to the war effort. In the aggregate these will be a de-

Nelson Urges Cooperation of Industry with 'Program for Victory'

A WARTIME MESSAGE

To Every Member of the Refrigeration and Air Conditioning Industry from
DONALD M. NELSON

The months just ahead are critical months for America—critical months in the world-wide fight for freedom.

You of the Refrigeration and Air Conditioning Industry are doing an important job of providing and keeping in condition much needed equipment for men and plants which provide arms and supplies for our fighting forces.

But America needs more help from you. Our war production program demands materials and metals in quantities never dreamed of before.

You can help provide these materials—steel and copper and other critical metals—by helping America conserve. That, in a nutshell, is the object of your industry's "Program for Victory"—to save—simplify—substitute. I urge you to give fullest support to this activity.

Specifically, this program calls on you to avoid every waste of essential materials and supplies; to collect reclaimable metal for war use; to reduce the number of models now being produced; to release vital war materials by finding substitutes; to cooperate in all possible ways with governmental agencies in the conservation of equipment, materials, and power.

The Refrigeration and Air Conditioning Industry has already demonstrated its patriotism. I know it will respond to this new assignment.

termining factor and they must be the result of voluntary action on the part of the individual, industrial companies and industry organizations.

With this in mind the "Refrigeration and Air Conditioning Program for Victory" was initiated. The plan was first developed by the American Society of Refrigerating Engineers with the cooperation of Messrs. Dinegar and LeBaron in the Office of Civilian Supply, George Taubeneck of AIR CONDITIONING & REFRIGERATION NEWS and later with the assistance of Mr. George Meek, WPB Conservation Consultant, William Henderson of the Air Conditioning and Refrigeration Machinery Association, and others.

It was recognized that to be effective all representative organizations within the industry should be invited to sponsor the program on an equal basis. The organizations which have agreed are:

The American Society of Refrigerating Engineers, Refrigeration Service Engineers Society, Air Conditioning and Refrigeration Machinery Association, Association of Refrigerated Warehouses, Commercial Refrigerator Manufacturers Association, National Frozen Food Locker Association, Inc.

National Association of Ice Industries, National Association of Practical Refrigerating Engineers, Practical Refrigeration Engineers Association, National Refrigeration Supply Jobbers Association, Refrigeration Equipment Manufacturers Association, Standard Refrigeration Compressor Association, AIR CONDITIONING & REFRIGERATION NEWS.

In addition, the program has been recognized and is sponsored by the

War Production Board as a very desirable and important action on the part of the industry. This recognition is in the form of a "Wartime Message to Every Member of the Refrigeration and Air Conditioning Industry from Donald M. Nelson," dated May 9.

Just what is the Victory Program? Its key words are Save, Simplify, Substitute. It is directed to the attention of the Manufacturer; Distributor; Dealer or Jobber; and the Operator, Maintenance or Service Engineer. Specific suggestions are made. The thought is introduced that "I will" follow these suggestions.

It is a pledge to conserve for Victory. The text is printed in current issues of AIR CONDITIONING & REFRIGERATION NEWS and Refrigerating Engineering. Some 5,000 pamphlets are being printed for distribution to organizations and companies.

It is recognized that this is just a start. To stop at this point would mean the continuation of a mediocre accomplishment in saving, simplifying and substituting. To make the program a truly effective instrument it must be widely publicized, it must be supported by intensive sales promotion efforts, including posters and bulletins for all branches of the industry—perhaps prizes and recognition for accomplishment.

It must be thought about and actively supported by individuals. All this will require work and money. The reward in the form of material aid to the war effort, a unified front in the refrigeration industry and as an example to other industries will be well worth the effort.

To carry on the work an industry council is being organized. Government officials have agreed to act in an advisory capacity. It shall be the duty of this group to guide and develop the program for Victory and weld it into the powerful force it can be. Suggestions will be made as to how to use it and how not to abuse it.

Until such times as the council proceedings are announced, information may be obtained by writing to the American Society of Refrigerating Engineers, 50 West 40th Street, New York City.

With your individual and company support, this contribution to the democratic way of waging total war can be made an outstanding example. We are in this together and may I wish you success in the part you choose to take.



VOLUME 2

DETROIT, MICH.

Published in the Interest of Equipment Conservation through More Effective Servicing

When The Expansion Valve Freezes

EXPANSION VALVE FROZEN. This is one of the common reasons for expansion valve failure on methyl chloride and Freon systems. Moisture usually freezes the valve closed and starves the evaporator, but it sometimes freezes it in the open position and causes flooding. A very small amount of moisture in the system can cause a lot of trouble and simply because there is a drier on the system is no assurance that it is dry.

Driers must be fresh and amply large for the system. Furthermore, if the moisture has frozen up in the evaporator or settled under the oil of the crank case it is likely to stay there regardless of the drier. When applying the drier allow the system to warm up and then cycle the compressor by hand so as to circulate the refrigerant while keeping the pressure above the freezing point. It will help to obstruct the condenser during this time. Oil should be drained from the crank case and replaced by a new charge.

It is not at all uncommon for systems

to operate for as long as a year without trouble and then suddenly freeze up, the moisture having finally worked out of the evaporator or crank case.

Detection:

A. If compressor is kept off until expansion valve warms up it will then control properly for a short time but may again freeze up. Don't try to heat valve while compressor is operating.

B. Tapping the valve body may cause it to break loose for a while. This is a sure indication of moisture and the only sure way to correct the trouble is to remove the moisture from the system by cleaning out or using a drier. Don't damage the valve by hammering.

C. A small amount of methanol poured into the liquid line may break valve loose temporarily. Don't depend on the methanol—moisture should be removed from the system. Don't use methanol on SO₂ systems.

SYMPTOMS					PROBABLE CAUSE
Condition of Job	Evaporator Condition	Running Time	Suction Pressure	Suction Line Temperature	
Warm or Normal	Starved or Partly Refrig.	Short Cycle	Low	Warm	Expansion Valve Frozen
Normal or Cold	Flooded	Too Long	Normal or High	Flooded	Expansion Valve Frozen

Reprints of this—the second of a series of helpful hints—will be supplied upon request.

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2. To Label Lawfully Every Box Offered for Resale to Consumers "Section 1380.203—Every person offering a model of used household mechanical refrigerator for sale to consumers shall attach to it a label setting forth legibly the make, year, model number."
3. To Make Proper Records and Reports of All Sales and Trade-Ins Section 1380.207 requires every seller to include, in the record of each sale, the make and model, and also the make and model of each trade-in.
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NOTE:—For the convenience of our subscribers, the GREEN BOOK publishers have designed a price label to conform with the Regulation. Write for sample copy.

Priorities Information

Questions and Answers on Priorities From the All-Industry Conference

At the May 12 session of the All-Industry Conference in Chicago a "Question Box" period was held at the close of the session, in which questions on the operation of the priorities system for the refrigeration and air conditioning industry were answered by Harry C. Williams and George Meek of the Air Conditioning and Commercial Refrigeration Branch of the WPB.

Mr. Williams warned that the answers which he and his colleague gave in many cases could be considered only as "guides" or suggestions for a course of action or predictions of the probabilities of certain further actions. The only "interpretations" of WPB actions that are really "official," he explained, are those issued over the signature of the WPB legal department.

Following are some of the questions and answers:

Q. When Repair Order P-126 expires on June 30, what happens?

A. A new order or orders will be written, based on experience with P-126.

Q. Are ice cream cabinets likely to be classed as essential?

A. Cabinets with less than 8 cu. ft. capacity seem definitely barred, and there is a question on the larger ones. However, the whole quick-frozen foods industry may soon be the subject of a special order which will probably cover the equipment needed.

Q. Can copper tubing from existing stocks be used for any purpose?

A. It ought not be used for the replacement of existing equipment. It is likely that a special valve and tubing order will be written for the refrigeration industry.

Q. What procedure should be followed in getting equipment to expand a refrigerated locker storage plant?

A. Owner of the plant should submit a PD-1A application, and the matter will be taken up with the Food branch to determine whether the expansion of the plant's facilities is really needed. Be sure to give all the details in the application. In all PD-1A's, give all the information if you have to attach a couple of extra pages, and be sure you answer all the numbered questions.

Q. Does Order P-126 provide for replacement of tools necessary for the rendering of service?

A. This is not covered by the terms of the order. It might be possible to get tools by using P-100. It might also be that jobbers could get tools on a PD-1X, and sell them without priorities.

Q. What help is to be given to the smaller manufacturers in the industry who may have difficulty in converting their plants?

A. There is a conversion section in the Branch that will look after the task of procuring War work for such firms.

Q. How high a rating is needed to buy copper tubing?

A. This changes almost daily. Priority specialists must determine the ratings on the basis of what the situation "right now" is.

Q. Can you order by long distance telephone equipment to which you assign a rating under Order P-126?

A. This is a matter of the confidence that exists between the supplier and the customer. If the supplier trusts the man and believes that he will forward the duly certified order, he might accept it.

Q. How will the serviceman whose name is not submitted on any manufacturer's list receive a PD-399 application form?

A. All servicemen should wait for some time before taking any action, as the chances are they are on some list, but the machinery of getting out the forms will be slow. If the serviceman thinks he has waited long enough, he should write the Air Conditioning and Commercial Refrigeration Branch, WPB, Penthouse, Railroad Retirement Building, Washington, D.C.

Q. Will there be further limitation orders for the refrigeration industry, other than L-38?

A. Yes, very likely. Orders will probably cover such things as commercial refrigerators, water coolers, coils, and valves and fittings.

Q. How are "industry" committees

mittee is also planned so that it will include representatives of both large and small companies, and as many of the industry's products as possible.

Questions at the 'Clinic'

At the "Priorities Clinic" on the afternoon of May 12 an overflow audience fired questions at a "board of authority" who answered them the best they could with the knowledge gained from working experience with priorities.

These were some of the questions asked and answered at the "clinic":

Q. What kind of "Freon-12" supplies are permitted under Order M-28?

A. The order permits you to have a 30-day supply, but the application for it must be based on a correct breakdown into the 1, 2, 3, and 4

classifications. Jobbers should have a complete record of every pound of "Freon" that they have dispensed.

Q. Can you use an A-10 under Order P-100 or a rating under the new Repair Order P-126 to obtain "Freon"?

A. No. "M" orders take precedence over "P" orders, and "Freon" is distributed under the terms of an "M" order. And P-126 specifically excludes "Freon" from its provisions.

Q. What happens if you extend a priority rating to a manufacturer, and he tells you he can't fill the order under that rating?

A. Only thing to do is to try to get a higher priority. If you obtained the priority under a PD-1A, you'll have to file a second one and explain the priority wasn't good enough.

Q. Has the size or amount of materials needed anything to do with

applying for a priority?

A. Yes. Don't file PD-1A applications for small orders, especially since it is estimated that it costs the government \$42 to process every priority order.

Q. Is Order P-100 superseded by P-126 immediately, or can the man in the field make use of it until he gets his certification as an Emergency Service Agency under P-126?

A. No official ruling seems to have been made on this point. However, there doesn't seem to be anything which says that refrigeration service men shall not use P-100, even though P-126 has been signed.

Q. Can a refrigeration supply jobber sell anything out of stock?

A. Yes, he can sell anything without restrictions unless it is covered by an "L" or an "M" order, in which case he must sell it in accordance with the terms of that order.

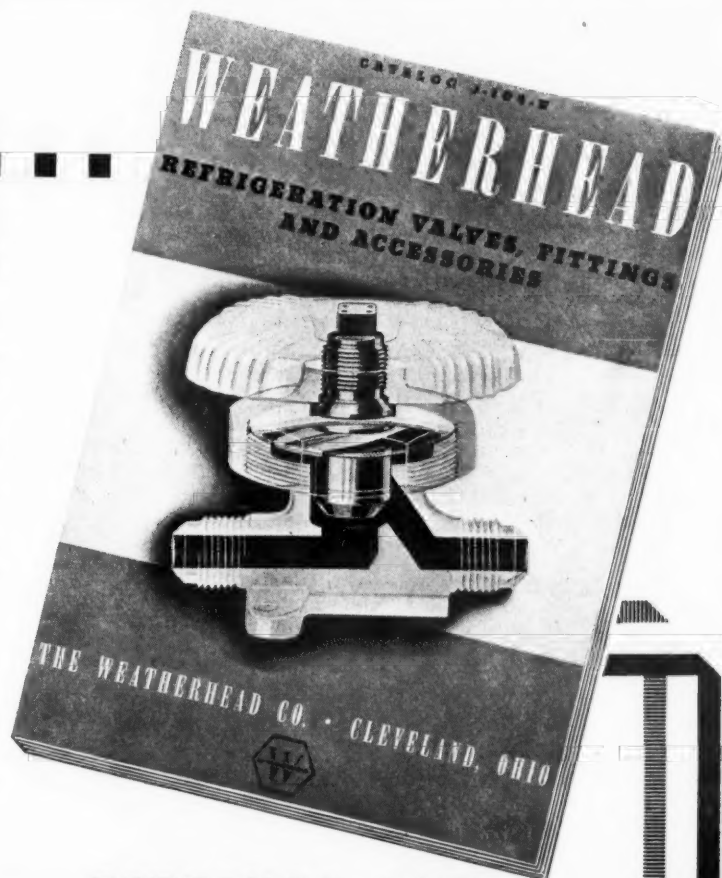
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The Weatherhead 1942 Refrigeration Catalog is designed to accord with specifications adopted by the National Refrigeration Jobber Association and the Refrigeration Equipment Manufacturers Association. For your convenience, fittings and small parts are listed under standard package quantities.

This new catalog also describes several new products and additional sizes that have been added to liquid receivers and Weatherhead Silica Gel Dehydrators.

If you have not received your copy or need additional copies, write us.

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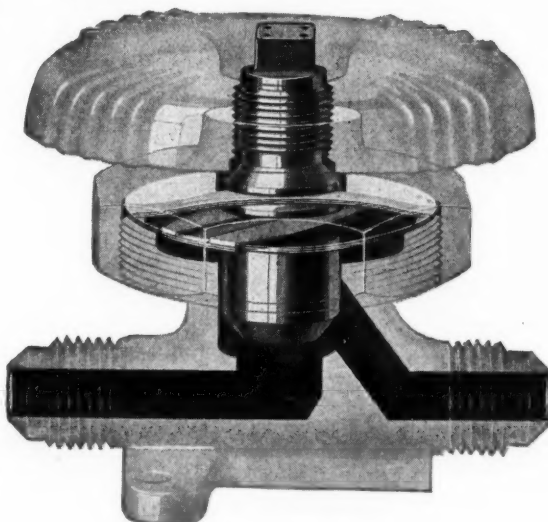
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THREE WAY



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Only four working parts

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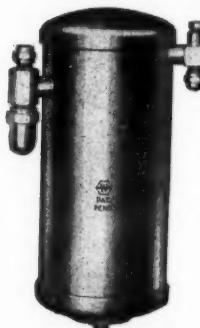
Large Diameter Seat and Stem

Inlet and Outlet connections on same level

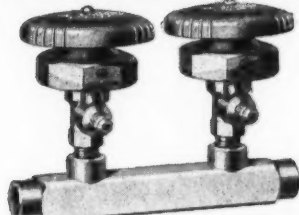
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Beryllium Copper Diaphragm, tested through 100,000 on and off cycles without fracture

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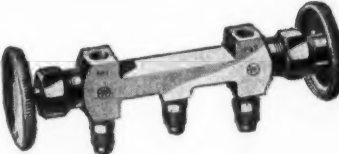
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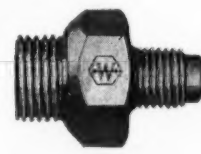
Manifold Assemblies



Strainers



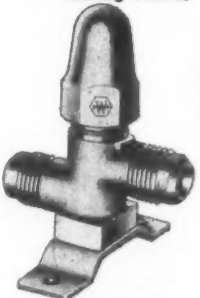
Testing Valves



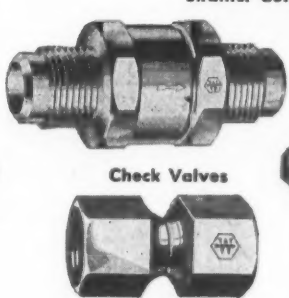
Strainer Connectors



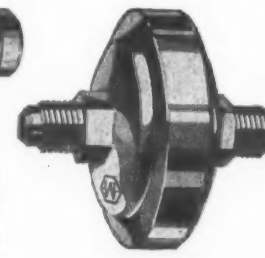
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Weatherhead rechargeable dryers can be readily refilled, while non-rechargeable dryers are designed for permanent installation after the system has been completely freed from moisture.

Rechargeable dryers have universal connections so that by using the proper S. A. E. reducing unions, elbows or tees, the dryer can be used on any size line. Rechargeable dryers from 1/2 to 7 h. p. rating. Non-rechargeable dryers from 1/4 to 1/2 h. p. rating.

WEATHERHEAD

Refrigeration Valves, Fittings and Accessories

Air Conditioning and Commercial Refrigeration In Our Present Economy

End of Business Existence Threatens For Those Who Do Not Produce For Wartime or Essential Civilian Needs

By Henry A. Dinegar, Chief, Consumers Durable Goods Section, Division of Civilian Supply, War Production Board

Yesterday and today I have had the pleasant opportunity of listening to a number of excellent speeches by fellow Washingtonians and members of the industry. I must confess that I don't feel that there remains a great deal for me to say that will be new or different to you. However, I think it would be interesting to review briefly the historical development of the policy which is now giving the air conditioning and commercial refrigeration industry so prominent a place in the War Program.

Sitting here while previous speakers have been discussing the place of commercial refrigeration in the War Program has carried my mind back to the summer months of 1941 when all of us confronted a very much different picture than faces us today. Less than 10 months ago, I went to Washington, fresh from industry, to join the staff of the former Office of Price Administration and Civilian Supply.

At that time (as many of you who sweated your way through a Washington summer, running back and forth from OPM's new Social Security Building to OPACS' apartment house at 25th and Q Streets, doubtless remember) interest in the prob-

lems of your industry was divided between two organizations whose authority was not particularly well defined.

At OPACS, where the staff of commercial refrigeration and air conditioning "experts" numbered the grand total of two, a considerable amount of time was spent in analyzing the statistical position of the various segments of the industry, the consumption of scarce materials in the manufacture of various products and by individual firms within the field, etc.

The work undertaken in this period may be called by some unfruitful, but in my opinion the groundwork was laid and the outlook crystallized for the purpose of future action. The products of your industry were classified by OPACS at that time as consumer durable goods, but those of us who worked with the problems of the industry could not help but realize the difference in essentiality between your products and the many others far more properly classified as consumer durable goods.

After the first OPM reorganization of last September, and the transfer of the old Civilian Supply Division of OPACS to OPM, the treatment of refrigeration problems was centered

in the newly created Refrigeration Section of the Consumer Durable Goods Branch, of which I had the pleasure of being chief. It was during these months of the early fall that we first became conscious of the fact that it would be necessary to curtail drastically the non-essential production of civilian industries (including the commercial refrigeration and air conditioning industry) using copper, steel, iron, and other critical materials.

WPB's Regard for Refrigeration

We began really to appreciate at the same time the difficulties which your industry was shortly to have in producing parts for the maintaining and repairing of existing installations as a result of this increasingly acute shortage of materials vital to the War Effort.

It was clear that the industry was shortly to need specific governmental assistance in obtaining necessary supplies of critical materials. As a result, by the latter part of last year the basic outlines of both a limitation program and a repair and maintenance program had been drawn—programs which were subsequently much improved and refined by my successors, Mr. Fernald, Mr. Williams, and their aides.

The orders which have been and are about to be issued for your industry are, it seems to me, so obviously necessary and reasonable and acceptable as to require little explanation. You are all acquainted with them, and I am not going to elaborate on their provisions. We may perhaps shed a sentimental tear for the uses of refrigeration and air conditioning equipment which are prohibited—the beer cooler, the soda fountain, the comfort cooler, and

others—but we should feel a sense of grim satisfaction when we realize that the materials which could have manufactured a beer cooler will be used to make bullets, bombs, and tanks to stop the Japs in India and the Germans in Russia.

There is no longer any question in the minds of officials of the War Production Board of the importance of air conditioning and commercial refrigeration in the War Economy—that has gradually been firmly established over a long and, I am afraid to you, trying period of a year.

I am sure, however, that many of you still wonder just exactly what the future holds. I make no particular claims to being a prophet, but it is safe to say that your industry will be asked to make further sacrifices for the War Effort—you will be asked eventually to eliminate the production of certain additional items, reduce your production of other products, and simplify the design or reduce material content in still others.

Every Product Must Be Proven Essential

Many of you may feel that your industry or your company is 100% behind the war now, but I assure you that that will not be so until no product is manufactured which does not serve a use directly related to the war effort or to the maintenance of national health, and until no item is produced which does not use an ounce more of the raw materials of war than is necessary.

America, the former land of plenty, is today faced with a tremendous shortage of copper, nickel, and even steel, as Harvey Anderson told you.

It is a fact that America's war production mechanism has swung into high gear so quickly that already today the steel mills are unable to fill all Army and Navy orders for a growing number of raw steel products. The shortage has grown so acute that the War Production Board was forced last week to order the stoppage of hundreds of industries, big and little, manufacturing items ranging in importance from furniture to cigar snippers—M-126!

I realize, of course, that many of you know of manufacturers who still have large inventories of critical materials and who are manufacturing non-essential items, but I assure you that the end of the business existence of manufacturers who have not heeded the call to war is not far off. In a war to the finish such as we are fighting today, there is no time to waste sympathy on the laggards in the rear rank.

In a sense, you gentlemen may consider that you have been drafted into the behind-the-lines army—the G-4, or service of supply—for the duration. You should be proud of the record of which George Taubeneck spoke that you have been selected to serve in this great supply and service mechanism without which those on the ordnance production line and front could not function.

And, like good soldiers, you must toughen up—cut off the fat, learn to work under all types of conditions, and become used to living a hard and simple life. You will, I am confident, meet the challenge which has been made to American industry. I am sure you will prove that American industry is the best and most efficient in the world, and will help to make our men at the front feel that their country is in there, fighting.

P-100 Violator Denied Priorities For One Month

JACKSON, Miss.—The first proven violation of the terms of the repair and maintenance order (Preference Rating Order P-100), which permits certain specified types of business firms to assign a rating of A-10 to purchase orders for maintenance and repair material and operating supplies without application to the WPB, has resulted in a suspension order directed against the Paine Heating and Tile Co. of this city.

The Paine company is a plumbing contractor and also conducts a wholesale and retail business in plumbing and heating equipment. During January, 1942, the company placed a number of orders for materials which it certified to be maintenance, repair or operating supplies and made use of the A-10 rating to secure delivery.

It has been established that the material was not needed for the purposes stated and that the certification constituted a misrepresentation to the Paine company's suppliers and to the War Production Board's predecessor, OPM.

Suspension Order S-54 withdraws all priority assistance from the Paine Heating and Tile Company for a period of one month.

Fogel Sets Up Two 'War' Departments

PHILADELPHIA — Fogel Refrigerator Co. here has recently set up two new separate departments, one for government contracting and production and the other for special production, reports William Fogel, president.

Main function of the government contracting department will be to help the plant convert rapidly to full war production and necessary civilian production. A full-size staff covers contacting, estimating, bidding, engineering, and production methods, all of which was formerly handled by the sales department.

Bidding is also carried on, covering any form of sheet metal and wood working operations, as well as the company's regular line of electric refrigerators, according to Mr. Fogel. This new department is also responsible for instructing and advising Fogel's distributors how to secure and bid on government work.

Special requirements are taken care of in the second distinct department in the plant, where specially built refrigerators that cannot be made in regular production, due to specifications or quantity involved, are manufactured.

This department has already turned out specially built testing refrigerators for the government, built to specifications for a particular purpose, such as odd shaped or irregular units, Mr. Fogel pointed out.

Numbered among the types of refrigerators Fogel Refrigerator Co. manufactures for the government are: display cases, walk-in, reach-in, bottled beverage coolers, rivet, ice storage, ice-making, fish chests, blood plasma, mortuary, special testing, and laboratory refrigerators.

Refrigeration is Essential...

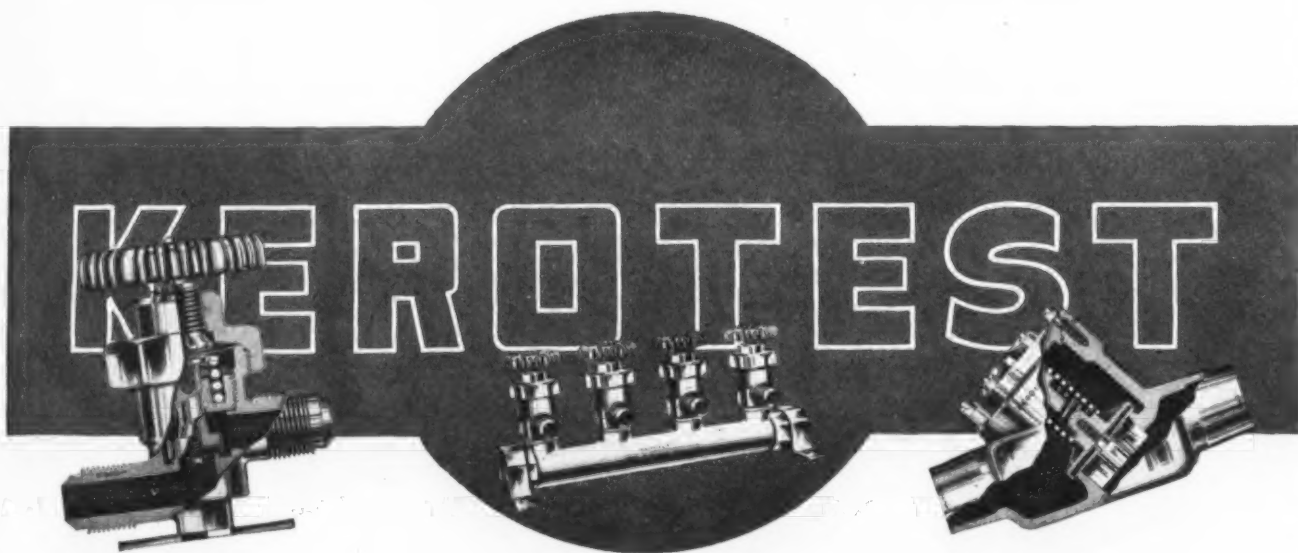
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WHEREVER YOU ARE, THERE IS AN ANSUL JOBBER NEAR YOU

Substitute Materials & Practices In the Refrigeration Industry

Even 'Alternate' Materials Are Tight Now;
May Soon Be Only Enough Parts For Essential Jobs

By George Allen, Refrigeration Division, Mueller Brass Co.

When George Franck and I were first asked to talk with you gentlemen here today, I am sure we both felt that we knew pretty well the future course we were going to be able to outline to you as far as valves, driers, fittings tubing and similar installation materials were concerned.

But in the last six weeks or two months the metal supply has become more and more uncertain until today no supplier can forecast accurately how the raw material situation will affect his business six months from today.

A year ago, for example, we would scarcely have thought that the copper situation would be such that copper tubing would not be available for direct defense installations of refrigeration equipment. . . . And today even the manufacturer using copper tubing for such an essential purpose as for fuel lines on tanks or fire extinguishing equipment on tanks cannot be too sure that he will not be using a substitute for copper six months from today.

I believe we all understand in a general way that this defense program is such an immense production job that it will require almost all the metals that we normally use in such tremendous volume for the production of civilian goods. For this reason there developed a program about a year ago to substitute for critical materials that were withdrawn from civilian production schedules.

But the substitution program today is developing along substantially different lines. Except for the barest essentials, metals will probably not be available for consumers goods and our substitution program is now aimed partly at filling the most essential civilian needs but more important, we are finding that the shortage of materials is leading towards a very definite substitution or use of alternate materials within the armament program itself.

For example, the shortage of copper has literally forced the development of steel shell cases, a problem that our armament works have been investigating for years. And in our own field of refrigeration, we see direct government installations speci-

fying more and more the use of steel tubing for piping, in blower units, as well as in plumbing and heating systems.

What Slows Substitutes

Just before going into the exact type of materials substitution that we will probably encounter I would like to take a minute of your time and outline some of the problems that a substitute program forces on the manufacturer and fabricator. Because these problems affect your source of supply they become a concern of yours and a realization of them will enable you to direct your business along the proper lines.

In developing substitutes or alternatives, if you will, we must consider

The availability of the alternative material

The availability of tools

The availability of machining equipment as well as the possible effect of the conservation orders that the WPB issues for our own protection.

Let us first consider the availability of materials and primarily the materials that enter into valves and fittings. Only very small amounts of raw copper can be obtained except on priorities that fall within the A-1 classifications. Brass, which as the most important copper alloy requires a majority of the raw copper, theoretically can be obtained on priorities as low as A-10 but actually there are but a very limited range of forms in which brass can be obtained on such low priorities.

Steel Is Restricted

Alloy steel is limited to about the same classifications as is brass but normal cold rolled or hot rolled shapes can be obtained with good fortune at times on priorities of less than A-1-K.

And in discussing steel, we should not overlook the effect of the M-126 steel conservation order on our business and our everyday lives. This order provides that in the near future steel may not be used in

Air conditioning systems, except repair of existing installations, Hospitals, industrial applications and Army and Navy

Electric water coolers except those built on a PD-1a or PD-3a.

Store display equipment and show cases

Ice cube trays

Ice box exteriors

as well as a host of other items from asparagus tongs and bird cages to parking meters and permanent wave machines.

Plastics, our first line of defense outside of the metals, are becoming more and more critical and those that lend themselves best to use in functional parts are practically unavailable except on priorities.

Granted we can decide on an alternative material the next problem lies in finding the proper tools and equipment to work with it. If any extensive new tools are required or much in the way of machining equipment is needed the substitution project ends right there because it is a practical impossibility to re-tool or re-equip except with the assistance of a priority.

And where tools and equipment can be found, they usually are not too modern and may be difficult to operate to the same standards of quality as those to which we have become accustomed. And right here is one of the ways in which the service man is finally going to be fully recognized for his worth. The industry is going to rely on him to use his ingenuity and make a 100% satisfactory installation with materials that may be strange to him and probably will require some manipulating to make the installation.

And this may be required on government as well as civilian installations because the government agencies are accepting the alternatives right along with you and I.

If I may digress for a moment I would like to bring out one problem that confronts the brass fabricators in attempting to change over to other

materials. Their machines and equipment are designed primarily for brass and in changing to steel for example, extensive retooling of the machines for cutting steel may be necessary.

But the most important problem is that it is very difficult to manufacture brass and steel on the identical machines within a given factory building because of the probability of steel chips from machining operations being mixed with the brass chips. In the average shop about 40% by weight of the stock brass that is put into production comes back in the form of brass chips that can be remelted and reused in production if they are not too badly fouled with iron or steel chips.

Brass fabricators cannot use steel exclusively since their direct government contracts require brass parts.

Know Your Priorities!

As a brief summary then, we see that even the substitute materials are not going to be widely available except on priorities. This brings out the cardinal point for anyone engaged in the metal business then, that you must have priorities and must understand intimately the way the system works.

The man that understands priorities best is the one that is going to have the best chance of staying in business. You should keep in touch with WPB officials but more important, keep in touch with the jobbers and the manufacturers. They will be able to give you the most help because they understand your business.

And don't blame the jobber or the manufacturer if you have to fill out 16 forms to get three fittings. We

don't like that any more than you do but it is one of the things we all must do if we are to stay in business.

So—what is the serviceman and the jobber and the manufacturer going to do about it? We are all going to do the best we can with what substitutes we can obtain—we are going to learn new techniques in repair and in installations and in conservation.

At times you may find you are still getting brass fittings, if they are not exactly the size you want figure out some way to make them work if they are even close to what you want.

Possibly there will be more and more steel flare fittings on the market at such times as manufacturers are able to obtain small amounts of screw machine stock or are able to buy iron castings for tees or elbows.

When you use these you will find that you must be doubly careful in making flares on the steel tube you probably will be using if your joint is to be leak proof. Steel is not as malleable as copper and just won't flow to make an improper flare leak proof.

With copper tubing rapidly disappearing from the civilian and even the Army and Navy market, the manufacture of solder type fittings will draw slowly to a close and you may be installing defense jobs with steel pipe and threaded fittings.

This may sound funny coming from a valve manufacturer but we may not be able to deliver valves to you in time to complete an installation, even though you may have an A-1-a priority so that you will have no choice other than to get the system going even if you can't valve it the way you might like to.

As far as repairs and maintenance is concerned you will find yourself in the position many times of repair-

ing a part you would normally replace. These repairs may be only temporary and may have to be repeated time after time for the duration of the emergency.

In closing, let me just make two points.

First, remember that refrigeration is an essential industry but that not all refrigeration is essential. If an unessential installation breaks down and cannot be repaired because of lack of replacement parts don't feel too bad about it.

Second, remember that the service man is now going to have to bear an additional load and the industry is going to rely on their ingenuity to get installations made with whatever materials may be available. Don't blame the manufacturer if he can't make or blame the jobber if he can't get it—but get the job running.

Bureau of Conservation Wants Salvage Reports

WASHINGTON, D. C.—The Industrial Salvage Section of the Bureau of Industrial Conservation is distributing report blanks, printed in the form of self-addressed post cards, setting forth the movement and disposal of scrap materials. The blanks are being distributed by the Regional Offices of the BIC and it is hoped that they will eventually be placed in the hands of the salvage managers of all American manufacturers.

BIC expects the reports to give some measure of the progress of its industrial salvage program. Further, the cards should provide a definite check on what industries and what committees in BIC's Industrial Centers Organizations are keeping accurate data on their salvage efforts.

PENN ELECTRIC SWITCH CO.

GOSHEN, INDIANA

INTER OFFICE CORRESPONDENCE

FROM M. E. Henning

May 1, 1942.

TO R. H. Luscombe

SUBJECT: AVAILABILITY OF PENN CONTROLS

Bob, I believe we should inform our customers that they still can depend upon PENN for full cooperation. Of course, "business as usual" is out for the duration. Wartime demand for vital materials has curbed automatic controls along with many other products. We all know that ... and we must cooperate to achieve our common goal ... victory!

Naturally, our armed forces are getting first call on our facilities. But ... we will continue to serve manufacturers, wholesalers and dealers as fully and as promptly as possible. Tell our customers that PENN CONTROLS are still available and will be shipped on priority orders.

Perhaps, shipments will not be as prompt as in the past, but we will do everything humanly possible ... under essential Government restrictions ... to provide our customers with efficient and dependable controls.

*John Hietala
I think this tells
the story. Why not
use it for an ad?
Bob*

Male

SQUARE D IN REFRIGERATION

DO IT ALL WITH SQUARE D



SQUARE D COMPANY
REGULATOR DIVISION - DETROIT

The Machine For Your Next Job...

If it's a refrigeration job ... no matter how big or how small ... we can supply Lipman equipment to fit the specifications. Let us work with you.

GENERAL REFRIGERATION DIVISION
Yates-American Machine Co.
Dept. AC-3, Beloit, Wis.

Model 153
Water-cooled
Machine



Air Conditioning & REFRIGERATION NEWS

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F. M. COCKRELL, Founder

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Refrigeration Will Help Win the War

Industry Groups Get Together At Last

DEPLORABLE though the war may be, a great deal of incidental good is going to come out of it. There is the spur to research, for instance. There is plant modernization. And above all, there is the reawakening in America of appreciation for freedom and Americanism and all the blessings which we have taken too much for granted.

And in our own polyphase industry something is coming about which might never have taken place were it not for the war: all-industry cooperation. In the past, there have been associations and associations, factions and factions, and never the umpty-twain could meet.

Last week in Chicago there was an All-Industry Meeting. It was a prime example of "crossing party lines" to achieve group understanding. It paved the way, one has reason to hope, for further expansion into the field of mutual reliance.

DR. HAINSWORTH GETS AID OF ALL IN 'VICTORY PROGRAM'

Presented at that meeting for the first time was the "Victory Program" for the refrigeration industry, promulgated by Dr. W. R. Hainsworth, president of the American Society of Refrigerating Engineers. For this program Dr. Hainsworth has engineered the cooperation of every group in the industry—a truly remarkable achievement.

This "Victory Program" (see May 11 issue of AIR CONDITIONING & REFRIGERATION NEWS; also page 1 of this issue) enlists every branch of the industry in a drive to "get the most out of what we have" in refrigeration

and air conditioning. It is a signal idea, admirably conceived and planned.

ALL GROUPS IN INDUSTRY MUST WORK TOGETHER FOR SUCCESS

Next comes the execution. For the plan to work—and Donald Nelson himself wants it to work—the cooperation of every association, every group, every element, every company, every man within the industry will be needed.

It is an oft-repeated observation that people formerly suspicious of one another frequently become fast friends when they get better acquainted. The actual operation of the "Victory Program," the follow through, will call for all the various groups in the industry to work together, and will afford plenty of opportunity for new acquaintanceships.

Out of it all we'll be greatly surprised if the industry doesn't develop a new sense of mutuality, a new and profitable cohesion.

Incidentally, last December the NEWS predicted editorially that the ascendancy of Dr. Hainsworth to the leadership of the A.S.R.E. would likely have most fortunate and timely results. Something was said about "events producing the man."

He has certainly made this prophecy come true, and quickly, too. The task has required something like 30 nights in Pullman berths; to say nothing of diplomacy and good hard thinking, but his reward certainly should come in the plaudits of the industry.

"It's an ill wind that blows nobody good." And, upsetting as the war has been to this industry, out of it much good can come.

QUOTED

A NEW POSTWAR CONCEPTION

THE coming of peace will find a former manufacturer operating entirely different sorts of machines than are required to make refrigerators; working men who have never been identified with the refrigerator business turning out products which haven't the faintest resemblance to any sort of kitchen utility; maintaining machines that bear no relation to his industry—if peace finds such a set-up as that, the conversion back to business as usual is going to present no less confusing a problem than that now faced by conversion into war production. And unless intelligent maintenance of trade names has been handled through the duration, it will be a question of starting at scratch to rebuild factories, to reshape management, to transfer men, and to build consumer acceptance.

This puts a light of far-seeing intelligence on the great over-all campaigns already launched: du Pont's peacetime conception of "Better things for better living through chemistry" which leaves the gate open for anything that du Pont may do when Hitler is whipped; and if he isn't whipped, nothing much will matter. On G-E's more current conception of a broad institutional campaign which keeps the name alive under an aura of "good people to do business with," and nothing much more definite. And all this adds value to the job of drawing together many operations under a single identifying mark such as Steel's "USS," which will be as good after the war as in the long gone peace era.—"Advertising & Selling," March, 1942.

LETTERS

SOLUTION TO PROBLEM OF AIR MIXING SOUGHT

Vilter Mfg. Co.
Milwaukee, Wis.

James McCallum, Jr.:

In an issue of your publication this year I note that you report a talk by Prof Tuve of the Case School of Applied Science. In the last paragraph of your article you quote

They'll Do It Every Time By Jimmy Hatlo



Prof Tuve as stating that:

"Air mixing is usually a matter of over-conditioning the delivered air, circulating it through the room air—and then just hoping."

When I first read the article I was of the opinion that I should write Prof Tuve and ask him for his explanation of this statement, on second thought I decided that I would write and ask you for your explanation of it.

You see, the reason I would like to have an explanation is because I am in accord with Prof Tuve in that I feel that the majority of installations are installed this way.

What I would like to know, did Prof Tuve offer any solution to the problem, that is, did he cite references or design factors that could be used to take the question mark out of air distribution?

F. W. MCKENNA

Answer: Jim McCallum, who covered this talk, is now with the armed forces, so you will have to write to Prof Tuve at the Case School of Applied Science in Cleveland, for the answer.

DEALER SEEKS RELIEF AND OFFERS A SUGGESTED PLAN

Mason's Appliance Store
Tigard, Ore.

Editor:

We enclose herewith a copy of a letter to Donald Nelson in Washington, D. C., together with a copy of a letter sent to some nearby dealers.

We believe the suggestion advanced here merits consideration, and we would appreciate whatever publicity you can give the idea.

A. L. MASON

Mr. Donald Nelson,
War Production Office,
Washington, D.C.

Dear Mr. Nelson:

In 1937 I started this store with \$100 and some energy. With the help of one person in the store the business came up to a high volume of \$27,000 last year. The volume was in electric refrigerators, ranges, water heaters, etc.

With manufacturing cut off in the interests of the war program, I decided on March 1 to be able to close the business on July 1, or Aug. 1, and go into war work as a machinist. To that end we have bought only such new merchandise as would round out our line, and enable us to end up smoothly. At the same time, I have devoted three hours each evening to brushing up on lathe work so that I might be able to step into the work and to a decent job.

The freeze order on ranges together with that of other merchandise in previous orders has put this small place of business on the spot. To close up "as is" would result in the abandonment of obligations, and prove me derelict in my administration of my affairs. That much on my mind would make me less of a good workman in any war work that I might do. To keep the store open, and try to get by on what little business the store can do, would result in a waste of manpower that I do not believe will benefit the war program.

As a suggestion because there are so many of us, competent mechanics, engaged in this business, would it not be a good idea to allow us to close out our small stocks and go ahead into war work?

Why not set a limit, so that stores having less than 25 units, or less than \$5,000 worth of merchandise, be allowed to close out. When refrigerators were frozen we were allowed to close them out if less than 100 were in stock. None of us smaller dealers had more than a handful of refrigerators, and later those bigger stores who had laid in a stock in the hundreds and even thousands

were allowed to proceed with the sale of what they had.

The idea behind this is not of individual benefit. It is for the good of many who are in the same position and would work out to the benefit of the nation.

When small businesses are gone from the picture then something that has been good and fine in American life will pass with them. As a class we are not young men because it has taken years to get to the place we occupy. When this is over we shall not as a class be young enough to again venture our energy and what money we have in an enterprise of this sort.

We ask you for this opportunity to retire gracefully.

Yours cordially,

Mason's Appliance Store

A. H. MASON, President

Associated Appliance Dealers

cc: President Roosevelt

Charles McNary

Rufus Holman

James W. Mott

Homer Angell

NEWS EAGERLY AWAITED IN AUSTRALIA

Jorgensen Bros. Pty. Ltd.
60 Hunter St.
Sydney, Australia

Dear Sirs:

Please address all further issues of the AIR CONDITIONING & REFRIGERATION NEWS to Jorgensen Bros. Pty. Ltd., Box 16 P. O. Burwood, New South Wales, Australia.

We may add that the arrival of your paper is eagerly looked forward to and as you can well imagine the delivery has been somewhat erratic since the outbreak of war in the Pacific.

N. JORGENSEN,
Managing Director

SOME SUGGESTIONS FOR SONGS FOR INDUSTRY MEETING

The Canton Hardware Co.
1221-1227 Third St., N.E.
Canton, Ohio

Editor:

After reading the schedule of the All-Industry Conference program in your April 27 issue, I am curious to know why each meeting will be opened with the singing of the "Star Spangled Banner" and "God Save the King" and not "The Internationale" nor the Chinese national anthem, whatever that may be.

It seems to me that if we are going to give the British a break we should do likewise for the Russians and the Chinese.

J. W. BROTHERS,
Executive Officer.

PRIVATE FINDS SERVICE MANUALS ARE EXCELLENT

Pvt. Martin W. Hofmaier
Q. M. Dept. 1607, C. A. S. U.
Fort Sheridan, Ill.

Sirs:

Having read some of your refrigeration manuals I think they are about the best information I've ever seen. Am in the army and doing service work on refrigerators here on the post.

I would like to have you send me the following manuals C.O.D. at your lowest price.

Volume No. 1-2-3-4-5 on household refrigerators. Vol. No. C1, C2, C3, on com. refrigerators. Vol. No. 1 and 2 on Soda Fountain and manual on locker storage.

PVT. MARTIN W. HOFMAIER

The Refrigeration Wholesaler's Function in the War Effort

He Can Save Precious Time, Materials, and Effort

By Alex H. Holcombe, Jr., Victor Sales & Supply Co., Philadelphia, Newly Elected President of the National Refrigeration Supply Jobbers Association

It is a privilege and honor to address a large group of men who know refrigeration. Previous speakers have demonstrated conclusively that refrigeration is essential in modern warfare. I wish to bring before you "The Refrigeration Wholesaler's Function in the War Effort."

First of all, let me make clear my experience in this field. I own and operate a Refrigeration Wholesaler's business in the third largest city of the United States—Philadelphia. We opened our doors on Jan. 1, 1934, over eight years ago, and have been in business continuously since that time rendering a service to the community. We do not sell anything except refrigeration supplies and parts.

We wholesalers have a definite function to perform in time of National emergency. Since all commercial refrigeration equipment is for many reasons subject to breakdown without warning, it is quite essential that a supply of normal maintenance material be available 365 days in the year in all large communities.

There are probably 20,000 or more commercial refrigerating machines operating within a radius of 40 miles of Philadelphia. Most of these 20,000 or more units must be kept in continuous operation to protect the food supply and therefore the health of over 5,000,000 people, to say nothing of keeping the wheels of defense industries in motion.

We have sold controls, valves, and other parts for many unusual purposes such as the manufacture of blood plasma, or hydrogen and nitrogen from ammonia, the tempering of armor plate, testing instruments at sub-zero temperatures, and many others too numerous to mention. We have furnished replacement seals, fan blades, valve plates, driers, etc. to arsenals, army camps, and the ship yards.

PROVIDE DELIVERY SERVICE

We have arranged for delivery of "Freon-12" on one hour's notice to ships arriving and departing the same day. We have furnished repair and maintenance material to railroads, bus lines, and cold storage plants.

One of the real pleasures and truly great responsibilities of this business is that you never know from one minute to the next what type of problem has to be solved almost immediately. In hot weather the problem must be solved promptly, to prevent spoilage of food or other perishable material.

At the outset let me say that the refrigeration wholesaler is 100% behind the War effort and is striving daily to fill a definite need in supplying not only the Army and the Navy, but also essential civilian requirements. We must and will win this war, and every wholesaler is going to do his part.

The advertisement of the Black & Decker Co., appearing in the May 9 issue of "The Saturday Evening Post," is a grand statement of how the wholesaler served this country in one of its darkest hours in the present war. Under the heading "Now—it can be told! How Pearl Harbor proved the value of Supply-through-Distributors," the advertisement says:

"Now it can be told—without disclosing military secrets—a story of which American industry can be proud. When the thugs of Tokyo struck with treacherous force at Pearl Harbor, our military forces needed plenty of electric tools—immediately—to help repair the tragic damage. They got them—immediately—several hundred of them—be-

cause the Honolulu Iron Works Co., a Black & Decker Distributor, had them in stock.

"Here's our point: Because of our efficient American pattern of Supply-through-Distributors, these tools were where they were needed, even in far away Pearl Harbor. And when the military emergency demanded all of these tools and still more, 300 additional Black & Decker Tools sailed from San Francisco a short three days later—in response to an urgent cable from our Distributors."

We have been in continual contact first with the Office of Production Management and now with the War Production Board to help where we can as well as to learn how to best plan and conduct a Wholesale Refrigeration Jobbing business in these difficult war times. The knowledge and skill which we have acquired in the past is of great value to our country, our fellow citizens, and ourselves.

For purposes of classification I shall divide the country into two types of areas, industrial and non-industrial. All of the thickly populated areas on the Eastern and Western Coasts and in the so-called Middle-West are essentially industrial communities.

SERVING THE WAR EFFORT

In the industrial areas we must first of all serve defense. By that I mean not only the armed forces and other stations but also the factories making shells, tanks, airplanes, ships, etc. It is vitally important that these industries be kept in continuous operation. Most of them have many types of refrigeration requiring replacement parts. If they need a drier either we furnish it from stock or they shut the unit down until air express brings it from the factory. Think of the loss in production, either material or man hours or both.

For quick delivery of smaller parts for service installation or breakdowns we must and shall be there to serve. Our business here will increase if we serve well. After we have provided for defense we must look after health.

In the non-industrial areas we must make a serious effort to get all the priority business we can. There is more available than most of us know, as this entire Nation, even the agricultural districts are furnishing material to the government and can use priorities from A-1 to A-10. The farmer, the dairymen, and some small businesses are important to the war program.

You should be familiar with the types of equipment in your area and the possible repair parts which might be urgently needed. If you are not in an area doing much of this priority business you must make your stock stretch much farther than those who can replace theirs on priority. Those refrigerating units in your area must be kept in good condition. Perhaps it will be necessary for you to contract overhauling compressors, coils, expansion valves, or even some non-refrigeration equipment.

It is important that we Wholesalers understand fully and comply 100% with all War Production Board regulations affecting our materials. This means much paper work now and probably more in the future.

You will have to start inventory records for all items not ordinarily carrying priorities, for example, household controls. There may have been unintentional violations of the P-100 repair order in the past. This has been by now very clearly defined in all trade publications as to its scope, and both you and your customer are held liable if you apply it

to secure material to make new installations.

We are vitally interested in repairing and maintaining existing refrigerating equipment—that is what P-100 or P-126 covers. They cover all essential commercial refrigerating equipment now in operation. All of us should try to conserve any equipment available even though it is out of date and perhaps has to be put together with makeshift parts or even "bailing wire" as someone has said.

It is definitely unpatriotic to install something new when you can repair the old. You are robbing the future of something that may be vitally essential and not obtainable.

Save all brass parts, short pieces of copper tube, stainless steel pins, etc., in fact all metals. They can be used later, if not now.

Steel tubing is now replacing copper tubing wherever it can be used. Later on we may have to use something else in the place of steel tubing. Certainly we do not need to order brass flare nuts when steel

flare nuts are available. We may have to do without brass and copper shortly.

New tin cans cannot be used for WPB restriction be used for oil, drying materials, alcohol or other material frequently repackaged. Why not make our customers turn in a clean used can for each new one taken?

Even now the packaging of many of our items is unnecessary. We can save cartons, excelsior, corrugated paper and even heavy cord to be used a second time. All of this material is scarce and should not be thrown out or sold as scrap if it can be used again. There is room for much improvement in packaging. There is no question but that the manufacturers are seeking substitute materials to replace all vital materials used in construction of their products. We can help by reporting the results obtained in the field.

It is possible that the service man will suggest to us something which will relieve the use of some vital material. Many substitutes have been discovered accidentally. Each

of us should be wide awake to look for these new items that we hear about. We can save time, money, and transportation facilities, all of which will help to win the war.

We save time because on our shelves is the material to get that vital plant running again. We save money because telegrams, air express, special delivery or even express to get the same material from the factory are costly, to say nothing of time lost waiting. We save transportation facilities because we usually buy in quantities which come by rail or motor freight instead of small lots from many sources. One of the orders we receive might have 20 items from a dozen or more sources nearby or even as far as 2,000 or more miles away. We can fill many of these from our shelves.

In closing, I believe that the preservation of the Wholesaler is more vital to our economic welfare than ever before by the service we render. When Victory is ours we can all feel proud of the part that we have had in bringing it to pass.

DEPENDABLE!



SMALL IN
SIZE...but A
BIG!
RESPONSIBILITY!

REFRIGERATION SERVICE ENGINEERS!

Yours is a job important to keep food products available to Military and Civilian use with a minimum of replacement and materials.

A-P Valves help Keep Refrigeration Equipment in steady, "service-free" operation for protection of foods and materials.

But, to help one another, we know the Refrigeration Industry will co-operate in our War effort by buying A-P Valves and other parts, ONLY AS NEEDED. For stocks of these War-time essentials must be "stretched" as far as possible to conserve man power and materials for "Weapons of Victory."



AUTOMATIC PRODUCTS COMPANY

2450 NORTH MILWAUKEE WISCONSIN
THIRTY-SECOND STREET
Export Dept. 100 Varick St., New York City



DEPENDABLE Refrigerant Valves

DUPONT
Artic
REG. U.S. PAT. OFF.

For information about nearest source of supply, write to:
THE R. & H. CHEMICALS DEPARTMENT
E. I. DU PONT DE NEMOURS & CO. (INC.)
Wilmington, Delaware
or National Ammonia Division
Frankford P. O., Philadelphia, Pa.

TO ASSURE QUICKER DELIVERIES RETURN EMPTY CYLINDERS PROMPTLY!

There is a shortage of cylinders for refrigerants. If you will return your "Artic" Methyl Chloride containers as soon as empty, your deposits will be

repaid immediately—and you will prevent delays in shipments of "Artic" to your shop! Round up any empties you have now and ship them back!



What This War Is Requiring Of the Refrigeration Industry

The Questions That the Manufacturers, Dealers, Jobbers and Servicemen Must Ask of Themselves And a Glance Into Post-War Possibilities

By A. B. Schellenberg, President, Alco Valve Co.

The Refrigeration and Air Conditioning Industry, if it is to survive in a Nation at war, must render a service essential to the Nation's welfare. We, who make up this industry, must make frequent and thorough examinations of our actions and policies to be certain that we are making the greatest possible contribution to this country's war effort.

Let us look at ourselves as an industry. Let us look at our responsibilities as an important industry in a Nation at war.

The Refrigeration and Air Conditioning Industry is an industry which, by its very nature, must use nearly all of the most critical materials. We are, therefore, an industry in which a vigorously pursued conservation and substitution program is of vital importance to the Nation's welfare. We must use wisely and well, for everything we use could also be put to good use in the direct munitions of war.

We are an industry supplying some of the most fundamental essentials to our Nation's health and war production, while at the same time supplying many industries not essential to a Nation at war. Our products, with little or no change, can be used for the most vital purposes or for wholly non-essential luxury purposes.

We are not a cut and dried industry in terms of our necessity. The uses of our products run the full scale of essentiality—starting with some uses, the loss of which would spell disaster to our Nation; down to others which are sheer luxury and waste of vital materials in a war economy. This places squarely upon our shoulders the responsibility of careful discrimination.

The manufacturer, the contractor, and the serviceman must from now on constantly decide which uses for our products and services are most important. He must approach each use of our industry's production with the query,

"Can we afford to use metal and time for this purpose instead of in a ship, a plane, or a gun?"

The execution of this discrimination is one of our industry's major responsibilities and duties to our Nation's welfare. It is difficult to separate the constantly changing shades in a rainbow or spectrum, but if we move along far enough, we soon reach a new color which is easily discernible. There will be many border line cases, shades in our spectrum of essentiality, but if we are honest and sincere in our purpose, we will recognize a change in color.

We must cease wasting time and materials on phases of our industry which we know deep down in our hearts are not essential. It will not be easy to say "No" to a good customer of long standing upon whom we have worked long and hard; but it will be easier by far than losing this war.

It will not be easy to see a competitor say "Yes"—for there may be a few who will. Even at the height of the bombings, England had its few who ran the black markets. But all black markets would quickly lose this war—and we intend to win it in spite of those few.

We are an industry whose products are widely used by our country's armed forces and in the production of war materials. The most essential use of our products is in the produc-

tion, preservation, and transportation of foods.

Our armed forces consume over nine million pounds of food a day. The Army alone in one day requires over a million pounds of meat, nearly 700,000 pounds of fresh fruit, and a million pounds of fresh vegetables among the seventy odd foods it serves.

How the Armed Forces Use Modern Refrigeration

Large quantities of refrigerated cargo ships are being built to transport food supplies all over the world. Portable refrigerated food storage units are being made for use on all of the scattered battle fields of the world.

Our Navy has many requirements for refrigeration and air conditioning in battleships, destroyers, submarines, etc.

Air conditioning increases the efficiency and effectiveness of our men in submarines, turrets and magazines, and fire control rooms of battleships. Army and Navy hospitals require refrigeration for their supplies, foods, blood banks, etc.

Our aviation forces use refrigeration widely on test units, fur storage, and in pilots' ready rooms on aircraft carriers.

Refrigeration plays an important part in the war of production, by improving blast furnace operation, cooling lubricating and cutting oils, cooling aluminum wing sections after forming, and aircraft rivets in process.

Cooling In Ordnance Work

Refrigeration and air conditioning is widely used in shell loading plants to keep powder dry and cool. Its use speeds up the manufacture of powder, shells, fuses, and detonators while providing additional protection for both the workers and the products.

We are an industry whose trained man-power and productive capacity are very adaptable to the manufacture of many war munitions and products. We are an engineering industry, and the war's need for engineering ability and experience is great. We are a metal working industry, and the making of war material is a metal working job.

It is our responsibility to see to it that our badly needed, specialized facilities are not wasted on non-essentials, and that they are used at full capacity. Our abilities must be used where they will do the most good for our Nation's welfare.

We are an industry with a conglomerate distribution system which possesses great versatility and great potentiality for service to our Nation's war effort. Our distribution system may lack the unity and organization of those of other indus-

tries, but with direction a fair part of that system should survive for the one reason only that it can serve a valuable purpose to our war effort.

Jobbers Vital To Supply Quickly Available Stocks

We have often heard the expression that there is only one customer today—our Government. This is a fallacy, for our Government is not one customer, but many. There are many branches of our armed forces and Government using the products of our industry in every State of the Union.

Quickly available stocks of repair and maintenance equipment, and trained men to service and install the products of our industry, can save much time and expense.

The jobbers and distributors in Hawaii, and their valuable stocks of equipment were of invaluable assistance in the speedy repairing of the damage done by the Japs on Dec. 7. An excellent tribute to the Hawaiian jobbers appears in a Black and Decker advertisement in the May 9 issue of the "Saturday Evening Post."

The jobber serves another function of value to our war effort in eliminating the need for many repair parts stocks over the country. In a typical large city, one jobber stock of replacement and repair parts will provide insurance against plant breakdowns for the whole community.

If each plant had to carry its own stock of emergency repair parts, probably one hundred times as much material as stocked by the jobber would be required. This would be uneconomical and would tie up a needless amount of materials which is needed in our war effort.

We are an industry in which the maintenance of existing equipment of our previous manufacture is tremendously vital. The maintenance of our products is more vital than in most industries, for our Nation's food supply and its health are concerned. We must use every means at our disposal to keep our country's refrigeration systems running, no matter what the restrictions, the shortages, or the hardships may be.

Servicemen Must Match Bataan's Ingenuity

We must match the ingenuity and resourcefulness of the men on Bataan, who patched up battered and bullet riddled planes with odd parts, wire and bamboo, to fly them again and bomb Hell out of more Japs. This will be an era of glory for the clever serviceman who has imagination and ability.

Never before have the servicemen of this industry had such an opportunity to build customer goodwill. The man who "keeps 'em refrigeratin'" regardless of handicaps is the man who will come through.

We are a relatively young industry, barely organized and, in some respects, not conscious of ourselves as an industry. Hence we are not prepared to take broad industry wise action such as the recent conversion of the automobile industry. We are an industry made up of very small and very large units—our membership ranges from individuals operating from their homes to divisions and branches of the largest corporation in the world.

This is an industry made up of a number of very independent groups strangely dependent upon each other. Had we been a little more closely knit as an industry a year or so ago, we could have undoubtedly made a greater contribution to our country.

Since we are a critical material consuming industry of varying degrees of essentiality with man-power and manufacturing facilities particularly adaptable to war production, ours is no simple problem. Since many of our products are vital to our war effort, and much of our productive capacity is badly needed for direct war material, ours is no small responsibility.

Some Productive Capacity Must Be Kept Going

It would be tragic if, as our Nation's war needs for refrigeration unfold, it should develop that our industry's production, installation, and servicing capacity is not sufficient because it has been so completely converted to other fields of war work. Think of the loss of time and money, the waste of experience, knowledge, and equipment, if new plants had to be set up, or if wholly foreign companies had to convert to making refrigeration equipment just to supply war needs.

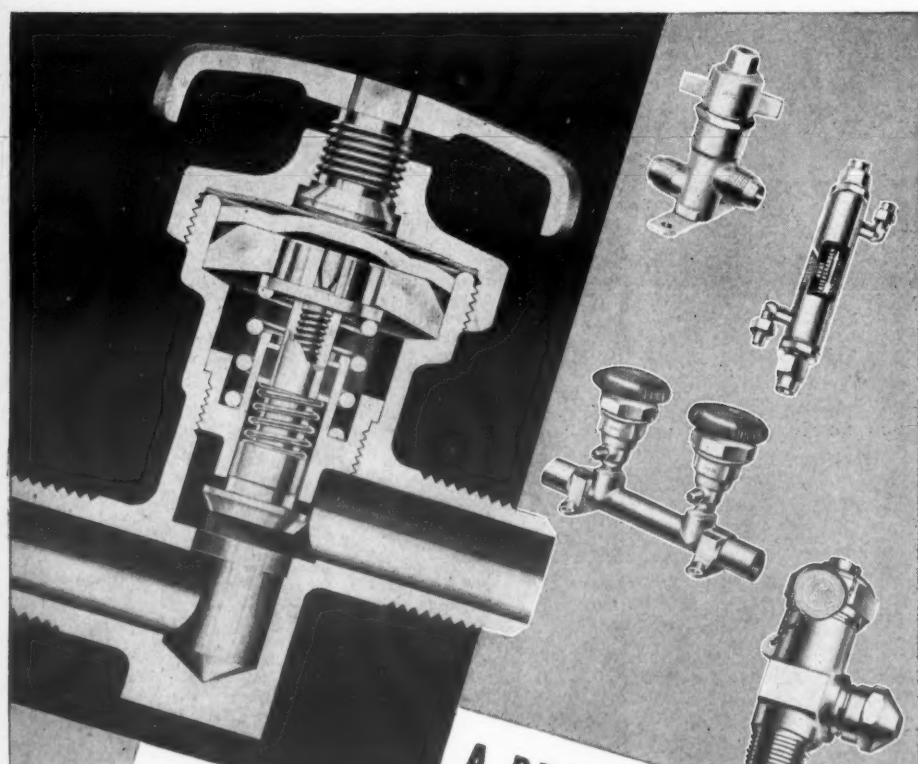
If next week all of the low side manufacturers should, by their own individual thinking, decide that their company can best serve the Nation by manufacturing shells or fuses, the effect upon the Nation's war refrigeration needs would be disastrous. If all the refrigeration service and installation men took jobs assembling tanks, the effect would be obvious.

Conversely, it would be equally tragic if we in the industry permitted a large part, or any part of our production capacity and man-power, to remain idle when it is so badly needed. It would be a crime if we did not use our full facilities for war production, refrigeration, and air conditioning or otherwise.

If all of the compressor and condensing unit manufacturers individually decided to hold their machines in idle readiness for hoped for business in their normal refrigeration products, the Nation would suffer a great loss of production capacity.

How do we reach this happy medium? How do we know what the

(Concluded on Page 11, Column 1)



A REPUTATION WORTH FIGHTING FOR!

● Mueller Brass Co. valves, fittings and accessories have a well earned reputation and are consequently doubly desirable at a time when refrigeration products are scarce and becoming scarcer with each passing month. We can still supply many of the items you may need and to the extent that we are permitted, we shall continue to produce standard essentials for the Refrigeration Trade. We sincerely hope that in the shortest possible time we can once more devote our full manufacturing facilities to serving the happier needs of the American market of a world at peace. Mueller Brass Co. products have a built-in reputation for long life and quality. If you have a problem, write us. We'll do our utmost to help.

MUELLER BRASS CO.
PORT HURON, MICH.

Thousands of WAGNER MOTORS

ARE NOW GIVING DEPENDABLE SERVICE ON REFRIGERATING AND AIR CONDITIONING EQUIPMENT IN WAR INDUSTRIES, ARMY CANTONMENTS, NAVAL STATIONS, AIR-FIELDS, ON SHIPS, ETC.

Remember — SERVICE FOR THE DURATION IS OF PARAMOUNT IMPORTANCE

In times like these, when many electrical driven equipment manufacturers have converted their plants to the manufacture of victory materials, it is good to know that the motors driving their equipment in the field will not want for service. Wagner's 25 sales and service branches are on the job in all parts of the country to help you keep your products in continuous service, no matter where they are.

There are many good reasons why Wagner motors are in demand for refrigerating and air-conditioning installations in the war industries, army cantonments, naval stations, etc., and here are a few of the many reasons:—(1) Established reputation for efficiency and dependability, (2) Complete line, (3) Quick shipments, (4) Large plant facilities, (5) 50 years of manufacturing experience, (6) Convenient service through 25 branches... six good reasons why Wagner motors are the first choice for war production requirements.



Polyphase Squirrel-Cage Motors 1/6 to 400-hp.
Shaded-Pole Fan Motors 1/125, 1/80, 1/40 and 1/30-hp.
Capacitor-Start Induction-Run Motors 1/8 to 3/4-hp.
Repulsion-Start Induction Motors 1/8 to 15 hp.

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Send for DESCRIPTIVE BULLETINS →

MOTORS • TRANSFORMERS • FANS • BRAKES

Refrigeration Will Have a Great Opportunity In Helping the U. S. To 'Win the Peace'

(Concluded from Page 10, Column 5)
war refrigeration requirements will be? Who is to tell us how far to go in entering new war material fields? There is frequently so much confusion, and there are so many contradictory opinions—how can we tell what to do?

Who got you started in the refrigeration and air conditioning industry? No one arranged it all for you—No one developed your old markets for you. How did you decide to make a new line of equipment, how did you decide how many to build, and to whom you would sell them?

How did you decide to go into the service business or the contracting business, and how did you determine where to locate, and how did you get customers?

Don't throw away the old crystal ball of individual initiative you used; there is still a lot of good common sense left in it. Use it, and add to it all the imagination and ingenuity you can muster. Stand away off from it and get a broad national and a broad industry view. Look at it with discrimination, honestly deciding what is important to the Nation's welfare and what isn't.

Analyze Your Position

We can get some help from Government Agencies in trying to foresee the war requirements of our industry. Analyze the war requirements for refrigeration and air conditioning as you analyzed the market potentials before the war. If you guess wrong, guess in the overload direction and get your needed increased capacity by sub-contracting. Subcontract to your old customers, your suppliers, your competitors.

If you are a serviceman, a jobber, or a contractor trying to decide how to make the best contribution to the Nation, look at the probable requirements for your service in a Nation at war—how many will compete with you. If there are more than enough to do jobs under the limitations of war, you will serve yourself and your Nation best if you convert now.

If, on the other hand, the refrigeration war requirements for your services are great, and few men are available to keep your community's essential refrigeration equipment running, stay on the job and give it all you've got.

We have another great responsibility—the future. Every company in our industry should plan for the use of its added personnel and plant facilities after the war. We can well afford to seriously contemplate the future without detracting from our all-out efforts of the present. After all, if we are clear as to why we are fighting, we will fight with increased vigor.

The people of the United Nation's have been slowly but steadily returning to the fundamentals of religion and democracy. The people of America, the people huddled together in air raid shelters in England, the unconquerable people of China, and I mean the people, are doing a lot of sound fundamental thinking and fact facing. If enough people had made the effort to really think about the problems of religion, economics, politics, and geography during the last war, there might not have been a post-war depression or a World War No. 2.

People are thinking today—they must; for this war comes onto their very doorsteps, yes, into their very homes as no war before ever has. This world, as everyone now realizes, has been compacted into community status by the modern transportation and communication facilities.

Post-War Interdependency

We know now that one Nation or one group of people can no longer exploit other Nations or other groups or races of people. We in America will be just as vitally concerned with the welfare of the people in India or Turkey as the people in Maine are concerned with the welfare of those in Tennessee.

True, our language and customs are different. After all, there is quite a difference in the language and customs between Maine and Tennessee, or Brooklyn and New Orleans, but we all get along. We can no longer put nickels in a box and say, "Tsk, tsk" as our parts in the lives of the Chinese.

As we approach the victorious end of this war, we will approach a power

age of peace and plenty through production for all the peoples of the world. Our broad objective is a continually rising standard of living. As the standard of living rises in the rest of the world, it is bound to rise still further here. True, the rules may change, but you will still have the same competition. True, our taxes will increase, but we haven't yet paid too much for what we've received. Your grandfather's taxes were considerably lower than yours have ever been, but so was his standard of living.

I do not subscribe to the pessimistic and almost fiendish prediction of post-war depression. The thinking people of today, with their re-born sense of fundamental responsibility, will not let this occur. I cannot believe that high productive units like Willow Run, with the air of permanency and stability given it by its new schools, churches, and broad ultra-modern highways, will close and gather cobwebs when the war is done.

The tremendous aircraft industry will not shrivel at the war's end. Airplanes will go to the interior of China, India, South America, Alaska, to bring out their great untapped resources. Let me quote from a recent address by Captain Gill Robb Wilson, President of the National Aeronautic Association:

Air-Borne Freight Is Seen

"Air cargo is feasible today. Anyone who thinks that the passenger will travel the skies at 300 miles an hour and place no comparative value on the speeds at which his merchandise travels has not studied the history of transportation.

"We already have aircraft which can operate a distance of 1,500 miles at 200 miles per hour with a cargo load of more than 8 tons at an over-all cost of less than 7 cents per ton-mile. Contrast this with rail express which moves at approximately 15 cents a ton-mile at an average speed of 45 miles per hour and it is easy to see that a revolutionary advance in air commerce is at hand as soon as conditions permit equipment to be produced.

"Ultimately we shall have locomotive aircraft towing motorless cargo ships which will be turned loose over airports across the country. The parachute certainly has not reached the limits of its potential use for mail and package delivery from passing aircraft. However, it is not in the field of domestic commerce that the aircraft will make its ultimate supreme accomplishment.

"Through flight, the time travel factor between the capitols of the world has shrunk to one-fifth of its former mark. It is difficult to understand the mental processes of a man who, within a day's time, spans the oceans and continents in comfort and safety and yet clings to the theory of political or geographical isolation.

"The average business man of today whose field has been restricted to domestic advertisement and merchandising will find himself an international business man tomorrow. He himself will travel the routes where his interests have preceded him as normally as today he goes between American cities. Moreover, he will be but following trends of population."

Tomorrow will be an age of power working for men. Just think, the electrical power production in all of India is about equal to that of South Carolina. Think of the equipment, including refrigeration, which will follow the power plants into India. A year or so ago the electrical power output of the United States exceeded the maximum capacity of England, France, Germany, and Italy combined.

This great production machine we are now building in the stress of war will some day be adapted to making new products which will be better, cheaper, and more desirable for public benefit and use. The discontinuance of automobile production will prove to be a wonderful benefit to us.

An entirely new kind of automobile will come off the production lines when this war is over—a lighter, cheaper, and more efficient car. Spurred by the many limitation orders and the need for metal conservation, many manufacturers in our industry have redesigned their products three or four times in the

past six months. This is more design work than most have done for a number of years. Better products are bound to result from this healthy process.

Because of the war impetus, more research has been done in the extreme low temperature field in the last few months than in all the years before. Those of us who are manufacturing direct war products in addition to refrigeration equipment, are learning a great deal about super finishes, close tolerance manufacturing, and the use of new metals. We are bound to be better manufacturers when this is over.

A Code For the Industry

The future for the refrigeration and air conditioning industry is dazzlingly bright. Half the people of the world don't really know what it means to eat. They will in this new era. It will be refrigeration equipment which will make it possible to properly feed the people of the world.

The use of the portable refrigeration units we are building now will shift from the world's scattered battle fields to its farms. Refrigerated cargo ships will fill the seas.

Did you know that there were only two or three completely refrigerated cargo ships in the country just a year ago? In these and many other ways, will our industry contribute to increasing and improving the world's food supplies.

It is our responsibility to keep alive those very young and promising phases of our industry which were only just beginning. Think what our improved production facilities and knowledge will do for cold storage locker plants and self-contained air conditioning units. Oh, our future is bright, for when the tanks

of Tobruk become the trucks and tractors in Tientsin, our products will soon follow to help make this a better world for all its peoples.

To insure this promising future this industry, and every individual who is a part of it, I know will accept the full responsibilities of being in a war of survival.

We will do a better job than we ever dreamed we could do.

We will discriminate consider our every action in the light of its effect upon our Nation's war effort.

We will not waste our materials, time, and effort on phases of our industry which are not essential.

We will supply our armed forces and the war material industry with the best refrigeration and air conditioning equipment that can be built, and do it with all the speed possible.

We will use as much of our equipment and man-power in the making of war materials as we can without reducing our refrigeration production capacity beyond that required by the war.

We will use imagination, ingenuity, and hard work in maintaining the

country's refrigeration.

We will "keep 'em refrigeratin'." When the last bomb has dropped and the war is won, we will be proud of the part played by the refrigeration and air conditioning industry in winning it. When the leaders of the world start us on a new era of power and production for everyone in a peaceful, free, and religious world, the refrigeration and air conditioning industry will be ready for its bright and shining place.



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Refrigeration Service Engineer's Part In U. S. War Program

It Will Be Up To Him To Determine What Is Essential or Non-Essential In Repair Work

By Paul Reed, Service Manager, Electric Refrigeration and Air Conditioning Division, Servel, Inc.

Total war has brought about many changes in American industry and each industry has its own separate battle front. The refrigeration industry front is the immediate battle line for those of us who are not in the armed forces, and it is up to each of us to fight his individual battle with all the force and ingenuity at his command, and be thankful that he can fight in this manner instead of manning a gun aboard a destroyer or what has happened to other peoples, sniping at Japs or Nazis from their kitchen windows.

Shortages and diversion to the war effort of materials, machine tools and skilled workmen have eliminated the production of household refrigerators, have limited production of air conditioning equipment to government use and are gradually reducing the production and sale of commercial refrigeration equipment except to government units, industrial establishments engaged in war production and essential civilian uses.

It seems likely that the nation will be expected to sharply curtail any non-essential extension of refrigeration facilities and to get along as much as possible with what equipment is already installed and now in use. In fact, the War Production Board has indicated as much by the emphasis that it has put on service facilities and by the special consideration it has given to the production and distribution of repair parts.

New equipment will still be produced for the Army, Navy, industrial establishments making war supplies and essential civilian needs but the volume of new installations will doubtless be smaller. On the other hand the total volume of service will increase, for the equipment already in use will be growing older and will require an increasing amount of service.

A redistribution of service is now going on; many dealers of household refrigeration have gone out of business and their organizations have been disbanded, including their service departments. The service on the thousands of refrigerators they sold is being absorbed by the other dealers and by independent service organizations.

During the past 20 years the service branch of the refrigeration industry has been undergoing developments along much the same lines as the automobile industry. In the early days of electric refrigeration the serviceman was usually trained by the factory and was familiar with only one type of equipment. Moreover, he was not a very highly regarded factor in the industry. He was considered more or less as a necessary evil and the cost of installation and service as a loss taken from the profit on the sale.

BIRTH OF THE INDEPENDENT

As the business developed service-

men began to pass from one dealer to another and service information became more universally obtainable and interchangeable. More and more men became acquainted with several types and makes of equipment.

Finally about 15 years ago independents began to appear, some of them to later grow into sizable organizations. They have been of great value to the industry, furnishing entirely or supplementing the service facilities of selling organizations by providing service to users of "orphan" refrigerators or making service available in remote locations.

Since their revenue is mostly derived from installation and service they have proved that installation and service cannot be regarded as losses but are instead simply cost factors in completing the sale, and must be included in the total cost along with the cost of the equipment, salesman's commission, freight and overhead.

Another factor of great importance to the service branch and the industry as a whole is the Refrigeration Service Engineers Society. Formed by the servicemen of the industry without very much help or encouragement from the industry and, in fact, originally looked upon with some misgivings by some, it has dedicated itself to the advancement of service knowledge and technique, to the dissemination of educational material, to cooperation between various elements and to fostering ethical practices.

As may be recalled, it originated the first convention and exhibit of national scope, which was the forerunner of the All-Industry Show and of this meeting itself. Lately it has been active, through the efforts of its officers, especially its secretary, Mr. McDermott, in cooperating with the War Production Board and in publicizing the wishes and rulings of the board. Anyone who has observed the growth and development of the Refrigeration Service Engineers Society cannot fail to be impressed by its value to the industry

and the users, and by its contribution to higher standards in installation and service facilities. It deserves support by the industry as a whole and by individual service engineers by their membership.

Preservation of the nation's food has been recognized by the War Production Board as essential to the national health, vitality and morale. That the service engineer will play an important part in this program is indicated by the new Service Order, and that the War Production Board is depending on the refrigeration service engineer is indicated by the very considerable authority delegated to him by the order.

He is assigned high preference ratings to enable him to obtain parts and material both for immediate emergency use and for reserve stock against future need. Those who qualify will be permitted to apply the priority ratings on their own authority.

SERVICEMAN MUST DECIDE ON 'ESSENTIAL' WORK

To a great extent, it will be left to the judgment of the service engineer as to whether the needs are essential or non-essential and whether the old part can be repaired and vital material saved, or whether a new part must be used. Both by the nature of his work and by the authority of the Service Order, the service engineer is in a position where he can either save material or waste it by using it unnecessarily.

Responsibility always accompanies authority, and the service engineer must be prepared to accept the responsibility for properly administering the provisions of the Service Order fairly, without prejudice and to the end that the materials will be used according to the intent of the War Production Board to save vital materials to be diverted to planes, tanks, guns, shells, ships and other sinews of war, that will enable our boys to blow our enemies off the map, and do it as soon as possible so that we can again bend our efforts to peaceful, constructive work.

It is up to us, the servicemen, to keep the existing equipment running efficiently without excessive current consumption, for we must save electricity, too. We must do this even though we are a bit short-handed; many of our number are now in military service or directly in war effort activities. We must do it with less material than we have been ac-

customed to use.

We must do our work more carefully and at the same time do it more quickly for there is more to do. We must be prepared to work even longer hours than the long hours to which we already are accustomed. Even more than before we must respond to call at all hours to prevent loss of food and damage to equipment.

We must give preference to those installations that are most important to the war effort—equipment in army camps, navy yards, plants engaged in the production of war materials, hospitals, transportation facilities and other essential civilian activities. These must have first call on our services even though it means that we are forced to defer the repair of a beer cooler, an air conditioning system or other equipment not essential to this business of winning the war. Sometimes it may be a hard choice; we may have to make a good customer wait.

We servicemen will discover in our daily work many little ways in which we can work more efficiently and in which we can conserve badly needed materials. We must plan our work to save time and avoid back-tracking. Conservation of materials, time and energy should be our aim at all times. Dr. Hainsworth has pointed out the path in the Refrigeration and Air Conditioning Industry Victory Program and we should all give it our wholehearted support, for its success depends, in a large measure, on how well we the servicemen apply the practices it recommends.

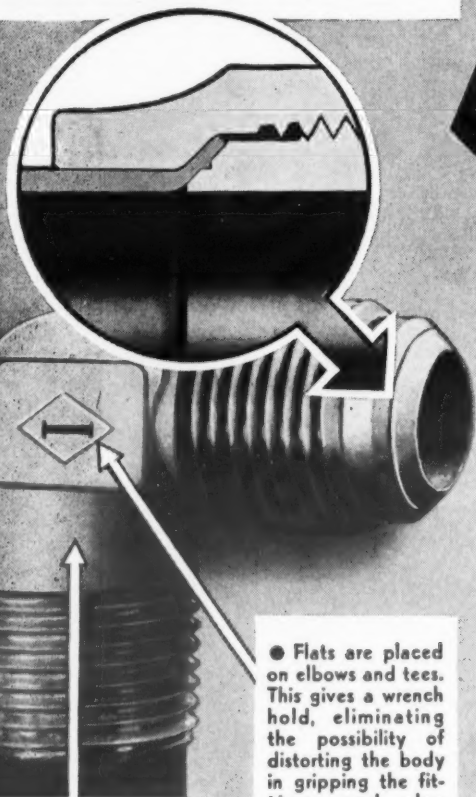
We must teach the customer to help himself as much as possible; to keep his equipment clean, well oiled and adjusted for the most suitable temperature, how to place foods for proper circulation of air, how to check fuses and change them if necessary. We must require him to give us what information he can when he calls for service so that we may have proper materials with us and thus prevent an extra trip, extra time and extra wear on tires.

Nothing is more vital to the successful prosecution of the war than the production lines of our war industries. Within recent months refrigeration has been applied to various industrial processes to speed production, to reduce scrap, and to do the job better and to save time and energy.

The liquid coolant that carries away the heat developed by the

(Concluded on Page 13, Column 1)

● The "Triple-Seal" groove is an exclusive feature of all Imperial Refrigeration Flared Fittings. When the flare is drawn up against the groove in the seat the copper is actually extruded into the groove as shown in the diagram. You get a tight, self-sealing joint without danger of twisting tubing or shearing off flare. Even when seat is nicked you can still make a tight joint. You can reconnect as often as you wish.



● Flats are placed on elbows and tees. This gives a wrench hold, eliminating the possibility of distorting the body in gripping the fitting, and also speeds up work materially.

● Tees, elbows, crosses and nuts are made from brass forgings. This assures a fine grain structure, freedom from internal stress and a high tensile strength. It eliminates any possibility of seepage of refrigerant or cracking or splitting.

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SAVE FITTINGS

CONSERVATION is so important today that we suggest that whenever possible you re-use every brass fitting.

With Imperial Triple-Seal Flared Fittings this re-use problem is greatly simplified for you can re-connect as many times as you wish even when the seat of a fitting has been nicked or marred. The adjoining diagram shows why and how the Triple-Seal groove makes it possible to get a good tight joint without having to pull up the nut so tightly that the tubing might be twisted or the flare might be sheared off.

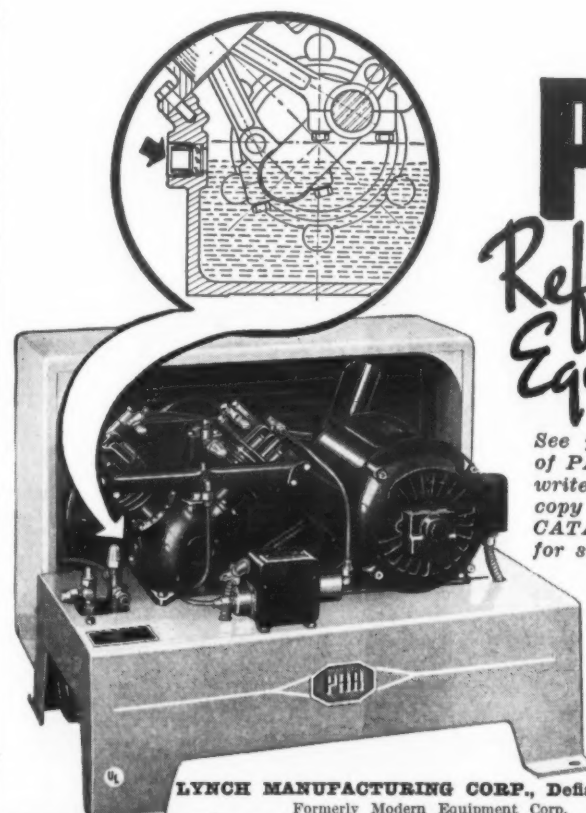
Imperial Triple Seal Fittings will help you save fittings because you can use them over and over as you make changes or additions to systems. On military and naval installations as well as in all civilian work that qualifies for material under present restrictions, you will speed up future maintenance and changes by connecting up all tubing with Imperial Triple Seal Flared Fittings.

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No squat, no stoop, no kneeling — to check the oil supply in a PAR unit. No, you don't have to tear it apart to check the oil . . . the bulls-eye sight gauge gives you a constant check on oil level.

And three-ring pistons insure maximum efficiency—less friction . . . lower operating temperatures . . . maximum economy. These are typical features of PAR's thorough-going engineering.



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Formerly Modern Equipment Corp.

★ ★ FOOD — THE FIRST LINE OF DEFENSE — CONSERVE IT WITH REFRIGERATION! ★ ★

Serviceman's Part In Our War Effort

(Concluded from Page 12, Column 5)
grinding wheel or cutting tool is cooled by refrigeration and the work is done faster and in greater volume and a better surface is obtained.

The tips of a spotwelder welding an airplane wing are kept at zero—actually frosted, and many hours of time spent in frequently dressing the tips are saved and production increased. Aluminum rivets are refrigerated and a stronger riveted joint is secured.

The plasma of human blood in the blood banks throughout the country is dehydrated and reduced to a powder so that it can be easily transported in quantity. Mixed with sterile water it is just as effective for transfusions made necessary by loss of blood by wounds as fresh blood direct from the body of the donor and without the necessity of typing.

Two stage and three stage condensing units make possible low temperatures of 75 to 100° below zero Fahrenheit for testing instruments of airplanes so that they will read accurately at altitudes of 50,000 and 60,000 feet. We service engineers must learn about these new applications of refrigeration not only so that we may be able to properly install and service them but also so that we can point out places where they may be used to aid the war.

We must keep abreast of the times and new developments. We must find time along with our other duties to regularly read the trade papers of our industry, at least AIR CONDITIONING & REFRIGERATION NEWS and the Refrigeration Service Engineer and save back issues or cut out articles of possible future value and keep them in a scrap book.

Along with all this we must keep records. A record of the model and serial number of a machine may save a trip of hours or hours of lost time and confusion in identifying the machine to obtain a badly needed part. And very important and very necessary also are the records of priority ratings and the orders on which we extend them. The War Production Board requires that these records be available for two years so that they can check them.

And through all this we must remember that the War Production Board, although friendly to the service and maintenance man is going to expect that we do our part in using the provisions of the Service Order honestly and fairly and that it will crack down on any of us who willfully and intentionally evade the provisions of the law or use the Service Order to gain unfair advantage for his own profit. For those among us who may do these things let us waste little pity.

In the Service Order the War Production Board has honored us with its confidence. Let us justify that confidence and at the same time prove our worth and value to our industry and to our country.

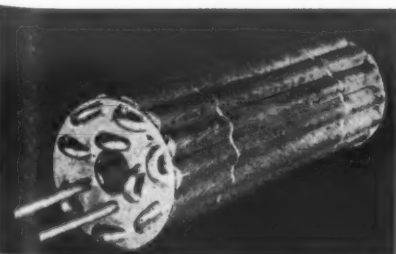
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ROME, N. Y.

Officers at R.S.E.S. Meeting



E. A. Plesskott of St. Louis (at the microphone), president of the Refrigeration Service Engineers Society, with some of the officers and directors of the society during one of the sessions at the recent national convention in Chicago. Behind Mr. Plesskott are (left to right) A. M. Palen, Minneapolis, a director; Clarence Buschkopf, Beaver Dam, Wis., first vice president; H. T. McDermott, Chicago, secretary; A. M. Fenwick, Cleveland, educational chairman; A. D. McGill, Peoria, Ill., a director; and C. J. Doyle, Omaha, treasurer.

War Problems Are Spotlighted by Service Engineers

(Concluded from Page 1, Column 3)

He also expressed the opinion that where the chapter felt they were unable to do this, the National Society would be prepared, upon advice from the chapter, to give such members a reserved listing.

Members were urged to offer their services to the state and local defense councils as well as to the departments of fire, police, public welfare, and other agencies, as might have need for them.

National Secretary H. T. McDermott outlined the work that has been accomplished during the past year, stating that in place of the usual large amount of educational matter sent out from the National Offices, the bulletins this year have been devoted largely to information pertaining to the materials situation, price regulations, and limitation orders.

He told of the work the National Society has done in presenting the story of the service field to Washington and outlined the original effort in presenting a brief to the WPEB.

Turning to the membership status as of date, Mr. McDermott stated that while many members had been lost to the armed forces and others to the production lines of the country, it was notable that the total membership still approximately equaled that of a year ago.

Particular tribute was paid to the Ontario Maple Leaf Chapter and the Interprovincial Association in Canada, who have assumed the work of Government contact and the dissemination of information to Canadian members much along the same line that the National Society has done in this country.

In his recommendations to the incoming officers, Mr. McDermott suggested that the Advertising Committee, the Price Book Committee, and others, be carried through actively in the coming year, and that another committee be appointed to suggest ways and means and make recommendations to members as to the best practical methods of conserving manpower and transportation and for centralizing and dispatching service calls and the interchange of service calls so as to conserve tires, gasoline, and automobiles; that the Educational Committee consider as a principal part of their program this year, the issuance of bulletins on the reconditioning of equipment, parts, and supplies by service organizations.

Officers for the year elected were: President—E. A. Plesskott, St. Louis; 1st vice president—C. Buschkopf, Beaver Dam, Wis.; 2nd vice president—S. B. Garland, N. Attleboro, Mass.; secretary—H. T. McDermott, Chicago; treasurer—C. J. Doyle, Omaha, Neb.; Sergeant-at-arms—William Marshall, Leaside, Ont., Canada.

Directors: W. W. Allison, Los Angeles; J. L. Driskell, Burley, Ida.; John K. Bush, Lockport, N. Y.; Warren W. Farr, Cleveland; A. D. McGill, Peoria, Ill.; E. A. Summer, Baton Rouge, La.; A. M. Palen, S. Minneapolis, Minn. Educational committee chairman, A. M. Fenwick, Cleveland.

Universal Promotes Pendergast, Cadwell

(Concluded from Page 1, Column 5)

Before becoming associated with Universal Cooler Corp. in 1931, Mr. Pendergast was chief engineer in charge of commercial sales and service and plant manager of Absopure Co.

Altogether Mr. Cadwell has a background of 14 years experience in commercial refrigeration. Prior to joining Universal six years ago, he was with Kelvinator Corp., first at the Detroit branch as a commercial salesman, sales manager, and supervisor of commercial sales, later transferring to New York branch.

"The past 12 months have seen the corporation produce more commercial refrigeration units than in any similar period in its history," declared President McNeal. "Commercial orders on hand are the largest since our organization."

Borden Summarizes Activities Of Jobbers Ass'n During Year

(Concluded from Page 1, Column 2)
including H. R. McCombs, McCombs Refrigeration Supply Co., Denver; and Joseph M. Mideke, Mideke Supply Co., Oklahoma City, Okla.

The report of executive secretary Fred B. Hovey showed that in the past year 19 new members were added to the Association, eight being regular members and 11 term memberships.

New regular members voted in during the meeting were Standard Brass & Mfg. Co., Houston, Tex.; Refrigeration Supplies Co., Cleveland. New term members taken in at the meeting included Refrigeration Supply Jobbers, Chicago; Chase Refrigeration Supply Co., Chicago; and Refrigeration Parts Co., Cleveland. In addition, six more applications for memberships are under consideration.

Pointing out that his term of office could not be called a "quiet or uneventful period," Mr. Borden, in his president's report, stated:

"Priorities have not been granted to the refrigeration industry for the purpose of keeping anyone in business. The sole purpose of such priority is to grant the minimum—not the maximum—assistance necessary to preserve perishable foods. New equipment will be issued on the same basis.

"Your Association has not been fighting to keep you and me in business. Our objective has been one of enlightenment—to state the facts of the case—to show that the refrigera-

tion jobber is a vital part of the behind-the-lines War Effort."

Mr. Borden cited the many trips and phone calls which he and incoming president Alex Holcombe made to Washington for the purpose mentioned above. Last fall they spent two full days in Washington, presenting the jobbers' case to 10 prominent officials, and leaving with them a leatherbound "Refrigeration Jobber Presentation."

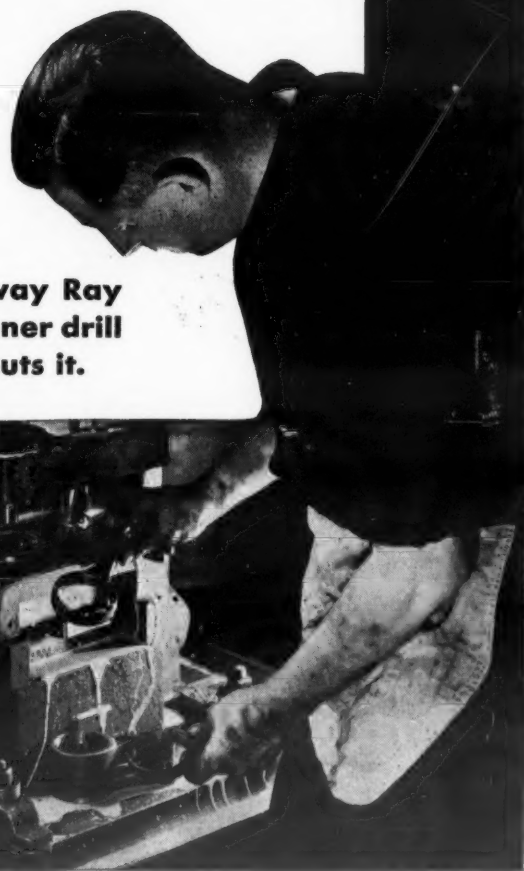
Among the other matters taken up by the N.R.S.J.A. in the past year were cash discounts, expansion valve guarantee, annual jobbers operating survey, substitute materials, mid-season survey of manufacturers for delivery prospects, listing of exchange goods, advertising campaign in trade magazines, dues revision, comparative monthly sales exchange, development of catalog standards, listing of all jobbers in AIR CONDITIONING & REFRIGERATION NEWS to furnish a basic list to Washington, development of a Master Jobber file, cooperation with "TECORDER," and development of a sales manual.

With respect to the sales manual, the basic idea for this was a book that had a dissertation on the Art of Salesmanship, followed by descriptions of the various products handled by the jobber, supplemented with selling ideas covering these items.

With the cooperation of the manufacturers of Rema, the necessary data has been gathered, checked, and is practically ready.

**"YOU CAN'T BEAT
AMERICAN
TEAMPLAY"**

*... that's the way Ray
Hickerson, a Brunner drill
press operator, puts it.



"Today, we're fighting for our freedom. We in the Brunner shop and the thousands of refrigeration men combined with the workers in other American plants will help keep our way of government alive. It's American teamplay that the dictators *can't* beat."

Brunner men, devoted Americans, are putting their finest efforts to turning out dependable

condensing units... refrigeration equipment that is essential for proper preservation of foods so vital to defense. Prospective purchasers of condensing units can approach Brunner with complete confidence in their enduring value, and in their ability to provide efficient, dependable refrigeration for many years to come. Brunner Manufacturing Company, Utica, N. Y., U. S. A.

BRUNNER
COMMERCIAL REFRIGERATION

* A company is nothing more than a group of men working toward a common goal. Put their personalities, beliefs and purposes together and you get company character.





Mills Condensing Units
By Mills Novelty Company
4100 Fullerton Ave., Chicago, Ill.

'Quick-Selector' Catalog For Electrical Apparatus

EAST PITTSBURGH, Pa.—A 64-page 1942 revision of the "Quick Selector Catalog" is announced by the Westinghouse Electric & Mfg. Co. The general subjects covered include: safety switches, nofuse breakers, multi-breakers, panelboards, motor control, and motors. New application data, on latest equipment in each of these groups, has been included.

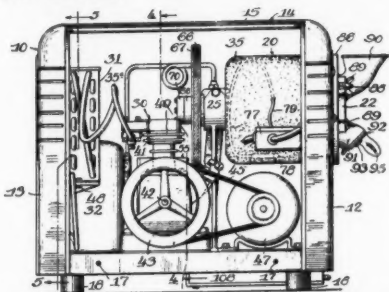
Despite revisions, the general format of the catalog has been retained. Electrical ratings, physical dimensions, and circuit diagrams expedite the selection of correct equipment for each purpose.

A copy of the April, 1942 "Quick Selector" Catalog 30-000 may be secured from department 7-N-20, Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

PATENTS

Weeks of April 14 & 21
(Continued)

2,280,434. **ICE CREAM FREEZER.** Matthew W. Huber, Chicago, Ill., assignor to Tuthill Pump Co., Chicago, Ill., a corporation of Illinois. Application May 3, 1940, Serial No. 333,118. 5 Claims. (Cl. 62-114.)



1. In an ice cream freezer, an enclosed casing including a base and front and rear walls, a freezer chamber supported on the front wall and having a refrigerating coil surrounding a portion of said freezer chamber within said casing, detachable closure means affording access to said freezer chamber through said front wall, refrigerating mechanism for said refrigerating coil disposed within said casing, including a compressor and a condenser, air inlet means at the rear end of said casing including a duct having a forwardly-opening discharge passage, said condenser extending over said inlet discharge passage so that the incoming air will be directed forwardly in said casing toward the front wall over a widely extended area, and a blower mounted on said base within said casing having its suction inlet disposed in generally offset relation with the line of discharge from said air inlet, whereby the incoming air will be forced in diffused currents throughout substantially the entire interior of the casing while passing from the inlet discharge passage to the blower.

2,280,512. **REFRIGERATION APPARATUS.** Harold Hemming, Dedham, and Charles W. Peterson, West Roxbury, Mass., assignors to B. F. Sturtevant Co., Hyde Park, Boston, Mass. Application May 2, 1940, Serial No. 332,864. 4 Claims. (Cl. 62-140.)

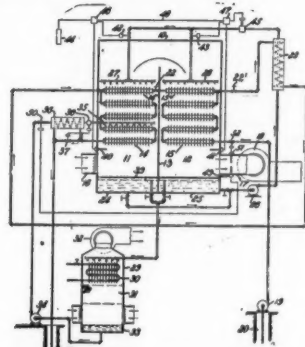
1. An air cooler comprising an upright substantially rectangular unit having an outdoor air inlet and a recirculated air inlet in opposite walls, a blower in said unit above said inlets, means forming an air discharge outlet in said unit in alignment with said blower, an evaporator in said unit between said inlets and said blower, a tilted condenser in said unit below said inlets, means forming a partition in said unit between said evaporator and said condenser, a second outdoor air inlet below said partition in alignment with said condenser, a compressor below the upper end of said condenser, a blower below the lower end of said condenser, and means forming an outlet from said unit con-

necting with the discharge of said blower, said compressor, condenser and evaporator being connected in a refrigeration circuit, said first mentioned blower being arranged to draw air through said recirculated air inlet and said first mentioned outdoor air inlet, over said evaporator and for discharging it from said first mentioned outlet, and said second mentioned blower being arranged to draw air through said second mentioned outdoor air inlet, over said condenser and compressor and for discharging it through said second mentioned outlet.

2,280,554. **REFRIGERATOR CABINET.** Christian Steenstrup, Schenectady, N. Y., assignor to General Electric Co., a corporation of New York. Application Sept. 27, 1940, Serial No. 358,594. 6 Claims. (Cl. 62-89.)

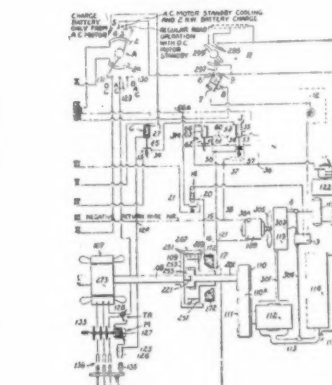
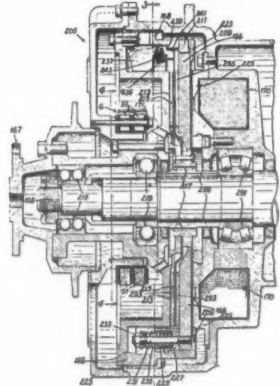
1. A refrigerator comprising a cabinet having an access opening therein and thermally resistant walls, supporting means for spacing the lowermost of said walls in close proximity to a floor, the inner surface of said walls defining a food storage space, thermally insulated door means for closing said access opening, said space extending substantially the full length, width and depth of said refrigerator, refrigerating apparatus comprising a cooling element for refrigerating said space, a motor compressor unit, and a condenser located outside the rear wall of said cabinet, said unit being disposed outside said storage space and substantially between the plane of the inner surface of the rear wall and the plane of said condenser and below the plane of the inner surface of the bottom wall of the cabinet.

2,280,633. **AIR CONDITIONING.** Robert B. Crawford, Athens, Ga. Application Dec. 20, 1939, Serial No. 310,229. 13 Claims. (Cl. 183-120.)



1. A method of conditioning air which comprises passing a stream of air successively in contact with a first extended surface stream of hygroscopic solution flowing counter-currently to said air stream and with a second extended surface stream of hygroscopic solution flowing concurrently with said air stream, maintaining said streams of hygroscopic solution by supplying hygroscopic liquid to each of said streams at a concentration closely approaching saturation at the temperature of the air stream at the end of the first zone of contact, and passing a stream of a heat transfer medium serially through said zones of contact in heat transfer relation with said streams of hygroscopic solution and counter-currently to said air stream in both said zones.

2,280,736. **AIR CONDITIONING AND LIGHTING SYSTEM FOR VEHICLES.** Martin P. Winther, Waukegan, Ill., assignor to Martin P. Winther, as trustee. Application April 11, 1938, Serial No. 201,336. 15 Claims. (Cl. 62-6.)



2. A clutch comprising a driving plate, a driven plate, spring means for normally forcing said driving plate against the driven plate with a predetermined pressure, centrifugally responsive means adapted to force said driving plate with more pressure against the driven plate, and electromagnetic means adapted to pull said driving plate away from the driven plate to open the clutch.

7. The combination of a load, a motor for driving the load, a source of energy for furnishing power to the motor, means for starting the motor with the load disengaged from the motor drive, and

time-delay means responsive to the first named means for connecting the load to the motor drive after the motor is operating.

Weeks of April 28, May 5

2,280,810. **VENDING MACHINE.** Robert F. Eddy, Emil W. Moeller, Ralph R. Wilcox, and Allan F. Eddy, South Pasadena, Calif. Application July 12, 1939, Serial No. 283,946. 13 Claims. (Cl. 312-36.)

1. In a machine for dispensing refrigerated articles, the combination comprising a cabinet, a receptacle in said cabinet, a magazine removably supported in said receptacle, adapted to hold therein a stack of the articles to be dispensed, and having an opening at the bottom and one or more inwardly extending flanges bordering said opening and forming a seat for said stack, said magazine being adapted to be loaded outside said cabinet, and forming with the articles loaded therein a unit.

(Concluded on Page 15, Column 2)

FREEZING WHILE DEFROSTING

FOR FRESH MEATS, FISH, VEGETABLES, FRUITS, AND OTHERS

LICENSEES IN U.S.A.
Bush Mfg. Co., Hartford
Kramer-Trenton Co., Trenton, N. J.
McQuay, Inc., Minneapolis

REFRIGERATION
Los Angeles

RECORD HUMIDITY LOW TEMPERATURE EVAPORATORS

U.S.A. No. 2,219,293
CANADA No. 394,209
NEW ZEALAND No. 62,339
OTHERS PENDING

ENGINEERING, INC.
California, U.S.A.

Fulco
ADJUSTABLE REFRIGERATOR COVERS

Fit any refrigerator. Excellent quality covering, well padded and reinforced at edges. Reduce loss from damage in transit to a minimum by full equipment with FULCO Adjustable Refrigerator Covers.

FULTON BAG & COTTON MILLS
Manufacturers since 1870

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Minneapolis New York Kansas City, Kan.

For 1942—most complete range of styles and sizes—12 to 71.5 cu. ft.—in the industry. New modern styling—priced for real value.

Reach-in CABINETS

Midwest Mfg. Company
GALESBURG, ILLINOIS

U. S. GOVERNMENT Specification

Filtrine

Cafeteria Coolers
Filtrine Mfg. Co., Brooklyn

Specify DRYERS THAT BEAR THIS LABEL

DAVISON'S SILICA GEL

Ask your Jobber

ESTABLISHED 1864

CURTIS REFRIGERATION

Curtis Refrigerating Machine Division
of Curtis Manufacturing Company
1912 Kienlen Ave. St. Louis, Mo.

HEAT TRANSFER EQUIPMENT

MARLO COIL COMPANY
SAINT LOUIS, MISSOURI

Henry DEHYDRATOR

With Refill Plug and Dispersion Tube

An inexpensive refillable large capacity dryer. It takes only a minute to unsolder the plug at the end of the unit, pour out the old dehydrant and replace it with a new charge.

ASK YOUR JOBBER FOR IT
Filled with Silica Gel

HENRY VALVE CO.
1001-19 N. SPAULDING AVE.
CHICAGO

TYPE 741

STANGARD
PRIME SURFACE Cold Plates

FOR MAXIMUM EFFICIENT REFRIGERATION

★ FOR Locker Plants, Sharp Freezing, Ice Cream Cabinets, Hardening Rooms, Soda Fountains, Storage Rooms, Milk Coolers, Liquid Cooling, Food Counters and other similar uses.

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Specialists in the Manufacture of all types of COLD PLATES

Stangard facilities are contributing to the production of materials for our National Defense

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A CASE OF PERFECT PERFORMANCE

Performance that is perfect every minute of the day... that's what you get with every Koch display case. Miraflex cooling units mean perfect refrigeration. K-Beam lighting gives added sales impetus to profit-making displays. Welded steel construction and 4-in. insulation... permanent satisfaction built right into the case. Investigate the Koch case... and the complete Koch line. Write today for complete details, open territories, and Koch selling plan.

KOCH REFRIGERATORS
NORTH KANSAS CITY, MISSOURI
You'll make money selling KOCH

Toss Out the Old Slip In the New—and Make More Money!

ORDER Ranco EXACT
Household Refrigeration
REPLACEMENTS
From Your Jobber

CLASSIFIED ADVERTISING

RATES for "Positions Wanted," 5¢ per word; minimum charge, \$2.50. Three consecutive insertions, 12½¢ per word; minimum charge \$6.25.

RATES for all other classifications, 10¢ per word, minimum charge, \$5.00 per insertion. Three consecutive insertions, 24¢ per word, minimum charge, \$12.50.

POSITIONS AVAILABLE

ENGINEER experimental and laboratory. Must have technical training and understand laboratory methods. Knowledge of air or refrigeration compressors and other refrigeration equipment desirable. Long established company with ample war work for the present and long range program for the future. Give complete information in first reply. Our Engineering Department has been notified of this advertisement. Box 1398, Air Conditioning & Refrigeration News.

EQUIPMENT FOR SALE

FREEZ-O refrigerant for Frigidaire Meter-Miser units. Perfect replacement for "F114." Send your cylinders to THE STANDARD REFRIGERATION CO., McKees Rocks, Pa., for refill. Price \$1.50 per pound. We also have highest grade Iso-Butane at \$1.00 per pound.

FOR SALE: 100 1-ton, (Feddars) air cooled, condenser coils, tinned copper, 26½ by 15½ inches, double pass. Priced right. Subject to prior sale. GOVERNOR CORP., 605 W. Main, Oklahoma City, Okla.

For Defense

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INDUSTRIAL

WATER COOLERS

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452 FOURTH AVE.

NEW YORK

Specify and Buy Fedders

REFRIGERATION Products

FEDDERS MFG. CO. BUFFALO, N. Y.

Use CHICAGO SEALS

for seal replacements

A complete line in all sizes

CHICAGO SEAL CO.

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DOLE

VACUUM PLATE

COOLING & FREEZING UNITS

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Bush FINNED TUBE PRODUCTS

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ALCO Specify ALCO

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Maximum Efficiency,

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3 CATALOGS IN 1

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Complete Line Refrigeration Parts - Tools - Supplies

WRITE FOR YOUR COPY ON YOUR LETTERHEAD

SERVICE PARTS CO.

MELROSE PARK, ILLINOIS

AIR COOLED CONDENSERS

1/6 h. p. to 5 h. p.

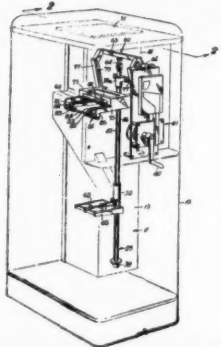
KRAMER-TRENTON CO.

TRENTON, N. J.

Patents (Cont.)

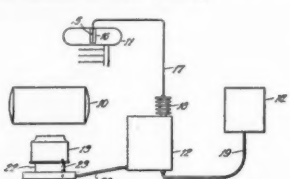
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which can be inserted as such in said receptacle after removal of the empty magazine from said receptacle, a discharge chute, and means for feeding said stack upwardly step by step in said



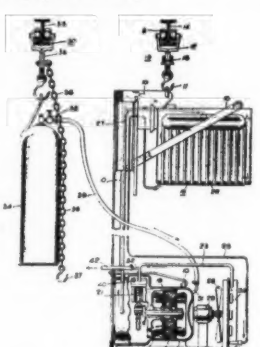
magazine to bring the articles successively in discharge position with respect to said chute, said means including a platform adapted to engage the bottom article of said package, and smaller than said magazine opening to permit free passage of said platform therethrough.

2,280,961. CONTROL MECHANISM FOR ABSORPTION REFRIGERATORS. John Lithgow and Leslie K. Jackson, Cleveland, Ohio, assignors to Sears, Roebuck & Co., Chicago, Ill., a corporation of New York. Application Aug. 25, 1939, Serial No. 291,986. 12 Claims. (Cl. 62-5.)



1. In combination with a refrigeration device of the intermittent absorption type, including an evaporator and a generator heated by a liquid fuel burner, a metering means, a fuel supply connected to said metering means by a fuel supply line, a valve interposed in the fuel supply line, means to connect the metering means to the burner, including a second valve, means responsive to a predetermined increase in temperature in said evaporator to open said first valve to supply fuel to the metering means, and means operated by said metering means to close the first mentioned valve and open the second mentioned valve to supply a measured quantity of fuel to the burner.

2,281,079. REFRIGERATING APPARATUS. James B. Rollins, Springfield, Mass., assignor to Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., a corporation of Pennsylvania. Application March 17, 1939, Serial No. 262,371. 9 Claims. (Cl. 34-105.)

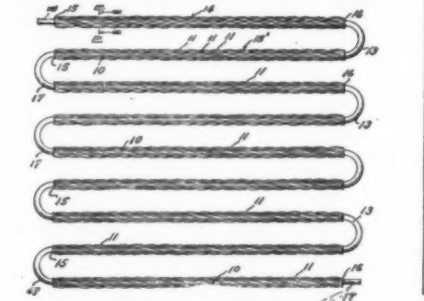


9. In apparatus for dehydrating refrigerating units, the combination of heating means, means for progressively moving refrigerating units, each including a plurality of chambers adapted to contain refrigerant, relative to and in heat exchange relation with said heating means, and means for passing a dehydrating agent through said chambers while said units are moving relative to said heating means.

2,281,080. LIQUID CONGEALING APPARATUS. Jules M. Sauer, Springfield, Mass., assignor to Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., a corporation of Pennsylvania. Application May 16, 1939, Serial No. 273,848. 10 Claims. (Cl. 62-108.5.)

1. In a liquid congealing apparatus, the combination of an ice pan, a removable grid disposed therein for dividing the pan into a plurality of cells for forming separate pieces of ice, said grid embodying members movable relative to and independently of each other, a slide extending longitudinally of said grid and leverage means arranged to move longitudinally of the grid on said slide into cooperative relation with only one of said movable members at a time and being thereafter angularly movable while still attached to said slide to impact ice dislodging movement to that movable member without disturbing the remaining members.

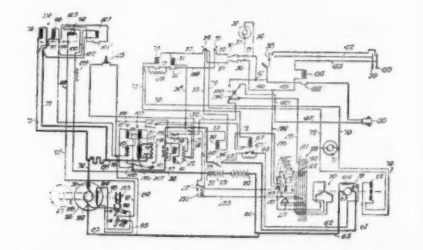
2,281,206. HEAT EXCHANGE DEVICE. Paul F. Schoen, Dearborn, Mich., assignor to Bohn Aluminum & Brass Corp., Detroit, Mich., a corporation of Michigan. Application June 17, 1939, Serial No. 279,690. 4 Claims. (Cl. 257-148.)



2,281,244. AIR CONDITIONING SYSTEM. John P. Millar, Chicago, Ill., assignor to Pullman-Standard Car Mfg. Co., Chicago, Ill., a corporation of Delaware. Application Nov. 18, 1938, Serial No. 241,213. 13 Claims. (Cl. 62-4.)

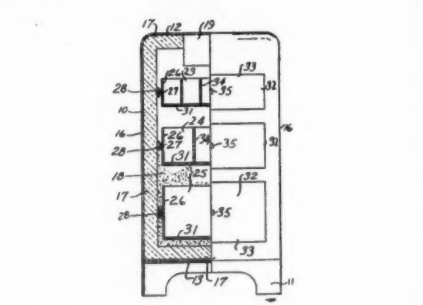
1. A heat exchange unit comprising a single length of tubing formed into straight runs connected by bent portions, each of the straight runs having external spiral fins and internal spiral fins, the bent portions having smooth external surfaces free of fins and having internal non-spiraled fins, a portion at each end of the length of tubing having smooth external surfaces free of fins.

2,281,398. REFRIGERATION UNIT. Percy E. Walley, Corwith, Iowa. Application Nov. 6, 1939, Serial No. 303,042. 1 Claim. (Cl. 62-89.)



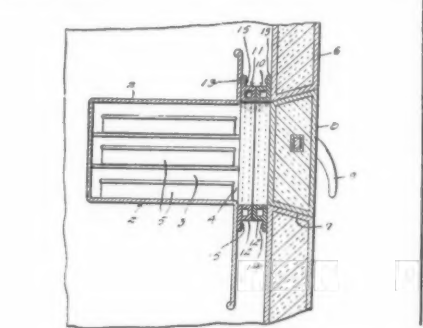
7. An air conditioning system including a compressor, condenser, an evaporator, and means for driving the compressor, clutch means between the driving means and the compressor, and a control circuit including a thermostat, means responsive to the thermostat for energizing the compressor driving means, generating means, time delay means for energizing the generating means so as to positively drive the compressor.

2,281,430. REFRIGERATOR. David M. Grant, St. Louis, Mo. Application April 18, 1941, Serial No. 389,238. 2 Claims. (Cl. 62-89.)



A small refrigeration unit for preserving medicines, comprising a body providing a normally closed chamber, heat insulation material lining said chamber, a cooling unit in an upper portion of said chamber, a plurality of substantially open containers in said chamber each adapted removably to receive articles such as vials to be cooled, said containers being mounted one above the other in spaced apart cooling areas of the chamber and beneath and in spaced relation to said cooling unit, each of said containers being at least partially removable from said chamber, means constituted as separate and distinct openings in said body and heat insulating material through which each of said substantially open containers individually can be made accessible outside of said body independently of others of said substantially open containers, an insulating wall upon a forward portion of each of said substantially open containers for insertion into one of said openings in said body and heat insulating material in closing relation to the opening, and an insulating closure member upon each container adjacent the corresponding insulating wall for sealing closed the corresponding opening in said body, each insulating closure member having overall area to provide a margin thereof projecting beyond the marginal edges of the corresponding insulating wall adapted to be engaged against the body of said refrigeration unit in surrounding relation to the corresponding opening.

2,281,430. REFRIGERATOR. David M. Grant, St. Louis, Mo. Application April 18, 1941, Serial No. 389,238. 2 Claims. (Cl. 62-89.)



1. In a refrigerator, an open front housing, means therein to provide a freezing chamber having an entrance at its front, a hinged main door for closing the open front of the housing and formed with a door opening aligned with said entrance, an auxiliary door hinged to the main door for normally closing said door opening, a main sealing element secured to the inner face of said outer door and bordering throughout the inner end of said door opening, an inner sealing element secured to said means and bordering throughout said entrance, said elements coacting to seal said chamber to the interior of the housing when the main door is closed and said inner door when opened, permitting access to said chamber while the latter is sealed to the interior of the housing.



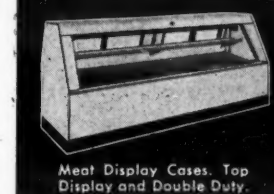
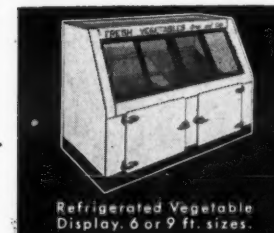
IT PAYS TO...

TIE UP WITH TYLER!



TYLER dealers make money every year, with the complete Tyler line. Strong welded-steel construction, appealing design—priced right. Sales possibilities everywhere. Write Tyler Fixture Corporation, Dept. A-3, Niles, Michigan.

TYLER COMMERCIAL REFRIGERATORS



REFRIGERATION PRODUCTS GUARD AGAINST SPOILAGE

See Your Jobber or Write Direct

LARKIN COILS, INC.

519 MEMORIAL DR., S. E., ATLANTA, GA.

IGLOO Says: Freeze on to something Hot!

Try our Super-Service on PARTS and Supplies for REFRIGERATION and Air Conditioning

THE HARRY ALTER CO.

1728 S. MICHIGAN AVENUE, CHICAGO, ILLINOIS

3 CHICAGO BRANCHES, NORTH, WEST, SOUTH

NEW YORK PHILADELPHIA BRONX JAMAICA

NEWARK DETROIT CLEVELAND ST. LOUIS

AMPLE FOOD FOR WAR

DEPENDS LARGELY UPON COMMERCIAL REFRIGERATION

On thousands of farms milk must be cooled daily . . . or go to waste. In commercial establishments throughout the length and breadth of America, food must be refrigerated . . . or go to waste. In dozens of our military cantonments throughout the world, food must be refrigerated . . . or go to waste.

Lack of food, among other things, finally lost Bataan. Wasting of food is militarily unthinkable.

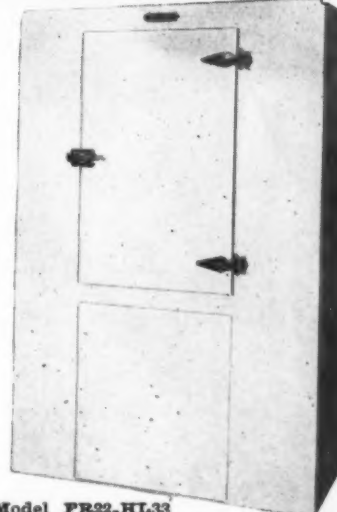
The Wilson Cabinet Co. is pledged to the maintenance of the highest standards of commercial refrigeration in its manufacture of:

- Wilson Systems of Milk-Cooling for Dairymen
- Wilson Farm Quick-Freezers for the freezing and storing of food at the point of origin.
- Wilson Sectional Walk-In Coolers for normal cold storage and for heavy-duty sub-zero applications.
- Heavy-Duty Commercial Sharp-Freezers
- Complete Sectional Locker Plants

ADEQUATE REFRIGERATION IS INDISPENSABLE IN WAR

WILSON CABINET CO., Smyrna, Del.

FARM QUICK-FREEZER



Rema's Two-Term President Earl Vallee Sees Need of a 'Refrigeration Council'

(Concluded from Page 1, Column 4)
zation during the year. That makes me think of the familiar quotation from 'Julius Caesar'—'The evil that men do lives after them—the good is oft interred with their bones.' I suppose it is natural for all of us to want to be sure that any good we may have done does not suffer the same fate—and isn't that progress?

"There are, however, a few thoughts I'd like to leave for the record—developments that have been important not only in themselves—but more particularly, in their relation to the future of our Refrigeration Equipment Manufacturers' Association, and the future of our industry.

"For the past year, we have been, of necessity, concerned with day-by-day cooperation within our Association, and also with our government defense agencies and the WPB. We've come through long discussions, meetings, studies, and researches, planning sessions, committees and subcommittees, in an attempt to settle important questions of priorities, materials, plant conversion, repair and maintenance service, conservation of present stocks, raw materials, and man power.

"Your association officers and the executives of our member firms all gave unsparingly of their time, energy and ability in a wholehearted and unselfish attempt to settle the tremendous problems that beset our own Refrigeration Industry—along with other industries, closely interwoven with the daily life of America and Americans.

"Today's problem is victory at any cost. No one of us likes this war. We want to do all we can to win quickly, and it must be a complete victory.

"But it is time to look and plan farther ahead, into a post-war economy and its relation to the Refrigeration Industry.

In Rema's hands today, rests the future of the commercial refrigeration industry. How we handle that future will determine the continuing strength of our association.

"We are important men to the present emergency, converting our plants and organizations to wartime effort, and at the same time maintaining the efficient operation of the refrigeration plants already in existence.

"Food, and the proper preservation of it, are as much a part of our victory drive as guns and ammunition.

"There is and will be a serious shortage of transportation equipment.

"There is a shortage of labor, and particularly farm labor.

"There is a shortage of tin.

"What does all this mean? To me, it points to the necessity that we accept our obvious responsibility of

showing the need for—and the economy of many local food storage facilities. Through our advertising, through our salesmen, and in every way possible, we must continue to keep in operation existing and necessary new refrigeration equipment.

"So we can be more helpful, I would like to see an organization come out of this meeting, which could be called a 'Refrigeration and Air Conditioning Council.' It could, as a starter, consist of presidents and secretaries of all the Associations in the Industry, to study ways and means of making sure our Industry is as useful to the war effort as it can be.

"This group should correlate activities of the many trade associations toward a common objective, such as industry advertising, by starting a publicity program which would tell the public the important part we are playing to keep our fighting men, defense workers, and civilian population healthy and free from epidemics.

"Now, a word of appreciation for the fine cooperation my fellow officers and committee men have given the Rema. They have worked hard, and at a sacrifice.

"Your new executive secretary has a big job cut out for him this year. I know he is capable of such a job.

"I have been very much pleased to note the increasingly important position accorded the Refrigeration Equipment Manufacturers Association, as a real factor in the industry. Your association is regarded with a great deal of respect in industrial circles and government offices, and is considered the mouthpiece of the industry because it has been a live wire group of men, who have their feet on the ground and have unselfishly helped wartime economy.

"Right now, the WPB is placing a great responsibility upon us."

Formula Set For Used Box Prices

(Concluded from Page 1, Column 1)
According to the formula, shall be the base price, plus \$5 handling or transportation charge, plus a further \$5, to the total of which may be added a 50% markup.

To obtain the maximum price of a "reconditioned box, the seller must take:

- (1) The base price (Green or Blue Book).
- (2) The \$5 handling or transportation charge.
- (3) One of the following sums:
 - (a) \$25 for 1937 or earlier models;
 - (b) \$11 for 1938 or later models;
 - (c) \$43 for 1933-35, inclusive, standard Frigidaires.
- (4) A 50% markup on the totals of 1, 2, and 3.

The result is the applicable ceiling price. However, it is stated, if this total exceeds 70% of the list price of the refrigerator when new, then the maximum price shall be 70% of the list price.

The seller may add \$5 to the maximum price allowed by the order for sale in the states of Montana, Wyoming, Colorado, New Mexico, Arizona, Utah, Idaho, Nevada, California, Oregon, and Washington.

Sellers of second-hand refrigerators are required by the order to continue the same cash discounts, trade-in allowances, delivery and installation services, etc., as were in effect on Feb. 16, 1942. In addition, detailed records must be kept of every used refrigerator sold, giving the make, model, condition, price, discounts, and trade-ins, if any.

Any seller of used boxes will be licensed by OPA under provisions of the regulations which are similar to the licensing provisions of the General Maximum Price Regulation. Sellers also are to provide sales receipts when requested by the purchaser.

For the purposes of Maximum Price Regulation No. 139 on used refrigerators, the OPA has made definitions of "as is," "unreconditioned," and "reconditioned" refrigerators as follows:

- (a) "As is." An "as is" refrigerator is one which does not meet the standards of an "unreconditioned" or "reconditioned" refrigerator.
- (b) "Unreconditioned." An "unreconditioned" refrigerator is one which (1) has been cleaned and checked, (2) which is capable of continuously maintaining an interior cabinet temperature of 45° F. for a period of 24 hours when placed in a room which the temperature is 90° F., and (3) as to which the seller furnishes a written guaranty that any part proving

defective within 90 days from date of installation will be replaced free of charge; (c) "Reconditioned." A "reconditioned" refrigerator is one on which the following work is done:

(1) If the unit is of the open type, it shall be carefully checked with regard to pressure, leaks, and valve operations. If these points are not satisfactory, necessary repairs and replacements shall be made. The unit must be equipped with a new belt.

(2) If the unit is of the sealed type, it shall be carefully checked with regard to pressure, leaks, operating efficiency, and vibration. In addition, a sealed type unit shall be:

(i) reconditioned or replaced by the manufacturer, or

(ii) reconditioned by a competent reconditioner having proper dehydrating and other equipment necessary to perform a thorough reconditioning job.

(3) All motors shall be thoroughly inspected and overhauled. All wiring shall be inspected and all worn bearings and brushes shall be replaced. Motor protective devices shall be thoroughly checked and in perfect operating condition. Motor operating efficiency shall be substantially equal to that when new.

(4) Compressors shall be thoroughly checked for efficiency and all parts showing excessive wear shall be replaced.

(5) Controls shall be cleaned and the "cut on and cut off" points set correctly. If erratic in operation, they shall be replaced.

(6) All expansion valves shall be reset, if necessary, and replaced if erratic or defective in operation.

(7) All flooded coils shall be equipped with a new needle and seat unless the seat is permanent. If the seat is permanent, it shall be reground and refinished.

(8) All systems shall be properly purged and recharged with fresh gas and oil after the component parts have been reassembled.

(9) If the system shows any evidence of moisture all component parts shall be oven-dried before being charged with any gas or oil. All lines must be replaced with new, dry lines and a dryer temporarily placed in the system.

(10) All dirt shall be removed from the condenser, the compressor assembly, and the machine compartment.

(11) If system shows any evidence of

carbonization, all component parts shall be thoroughly overhauled and cleaned.

(12) If the exterior of the cabinet is of an enamel or lacquer type, scratches or chipped sections shall be buffed and smoothed and the entire surface resprayed. If porcelain or enamel finishes have been chipped and the metal is rusted, the surface shall be buffed, the chipped edges smoothed out, the rust entirely removed from the metal, and the metal covered with lacquer or enamel. Breaker strips must be in good condition. If the porcelain lacquer has been chipped, it shall be properly patched with suitable porcelain cement.

(13) Exposed hardware shall be buffed and refinished, if necessary. Latches shall be easily opened and closed and capable of holding the doors tightly closed. Hinges shall be put into alignment so that proper sealing effect may be secured when the door is closed.

(14) Doors shall be sealed air tight when closed with suitable compression gaskets. All worn door gaskets shall be replaced.

(15) Shelves shall be cleaned, all rust removed, and refinished.

(16) A defrosting tray, large enough to catch all drip from the cooling unit, shall be provided with each refrigerator.

(17) Ice trays shall be corrosion-resistant, i.e., metal, plastic, rubber, or base metal protected against corrosion. A minimum of two ice trays shall be provided with each refrigerator.

(18) The cooling unit (or evaporator) shall be carefully cleaned and inspected to see that it is in proper operating condition. If the cooling unit cannot be properly repaired, a new cooling unit must be furnished.

(19) The refrigerator must be charged with the proper amount of refrigerant and lubricant, properly adjusted and ready to operate when connected to a suitable power supply without further immediate charging, oil, or adjustment.

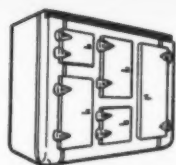
(20) A refrigerator shall not be deemed reconditioned if unable to continuously maintain an interior cabinet temperature of 45° F. for a period of 24 hours when placed in a room in which the temperature is 90° F.

(21) With each reconditioned refrigerator there shall be furnished a written guarantee that any part proving defective within one year from date of installation will be replaced free of charge.

★ REFRIGERATION IN AN ARMY CAMP



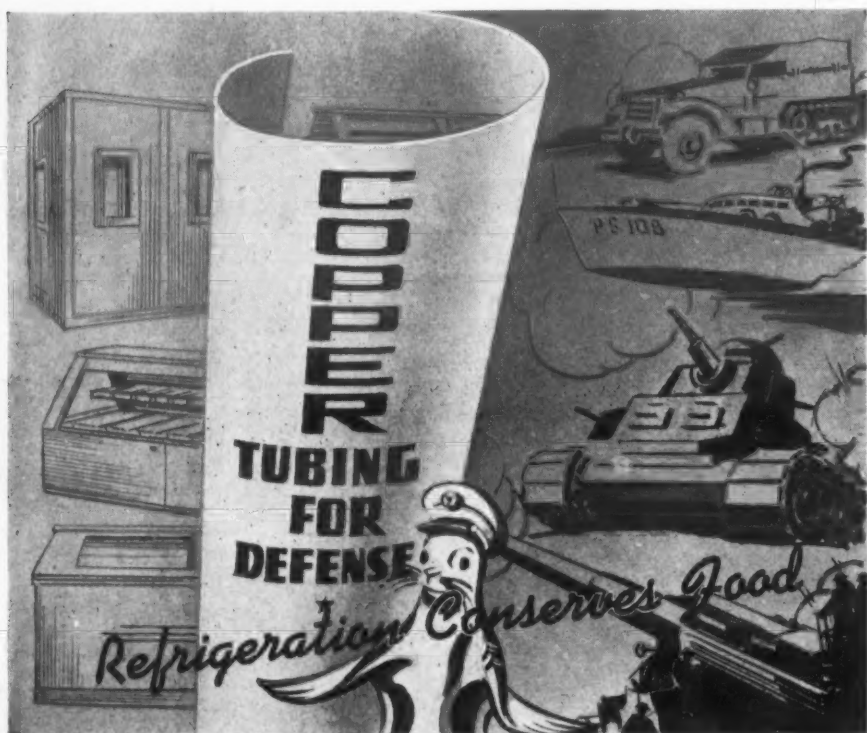
Safeguards THE SOLDIER'S HEALTH
ADDS ZEST TO HIS VICTUALS



Even the smallest refrigerators in the above are commercial sizes

EVERY training camp is a tremendous market for refrigeration equipment. Each can be compared to a city of up to 30,000 population and its commercial refrigeration requirements are about as great. You can serve this market and at the same time be sure your equipment functions at its best by using Minneapolis-Honeywell Refrigeration Controls, including the Polartron System of frost free constant cold. Minneapolis-Honeywell Regulator Company, 2807 Fourth Ave. S., Minneapolis, Minn. Branches in 49 principal cities.

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